

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

COMMUNICATION OF
INTERNATIONAL APPLICATIONS

(PCT Article 20)

To:

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in its capacity as designated Office

Date of mailing:

12 January 2001 (12.01.01)

The International Bureau transmits herewith copies of the international applications having the following international application numbers and international publication numbers:

International application no.:

PCT/NL00/00423

International publication no.:The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra
Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREA

PCT

NOTIFICATION RELATING TO PRIORITY CLAIM

(PCT Rules 26bis.1 and 26bis.2 and
Administrative Instructions, Sections 402 and 409)

From the INTERNATIONAL BUREAU

To:

VERHEES, Godefridus, Josephus,
Maria
Brabants Octrooibureau
De Pinckart 54
NL-5674 CC Nuenen
PAYS-BAS

Date of mailing (day/month/year) 12 January 2001 (12.01.01)	
Applicant's or agent's file reference BONG/WO-0256	IMPORTANT NOTIFICATION
International application No. PCT/NL00/00423	International filing date (day/month/year) 16 June 2000 (16.06.00)
Applicant BONGERS, Cornelis, Margaretha, Theodorus, Maria	

The applicant is hereby **notified** of the following in respect of the priority claim(s) made in the international application.

1. ☒ **Correction of priority claim.** In accordance with the applicant's notice received on: 27 July 2000 (27.07.00), the following priority claim has been corrected to read as follows:

NL 16 June 1999 (16.06.99) 1012346

☐ even though the indication of the number of the earlier application is missing.

☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:
2. ☐ **Addition of priority claim.** In accordance with the applicant's notice received on: , the following priority claim has been added:

☐ even though the indication of the number of the earlier application is missing.

☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:
3. ☐ As a **result of the correction and/or addition** of (a) priority claim(s) under items 1 and/or 2, the (earliest) priority date is:
4. ☐ **Priority claim considered not to have been made.**

☐ The applicant failed to respond to the invitation under Rule 26bis.2(a) (Form PCT/IB/316) within the prescribed time limit.

☐ The applicant's notice was received after the expiration of the prescribed time limit under Rule 26bis.1(a).

☐ The applicant's notice failed to correct the priority claim so as to comply with the requirements of Rule 4.10.

The applicant may, before the technical preparations for international publication have been completed and subject to the payment of a fee, request the International Bureau to publish, together with the international application, information concerning the priority claim. See Rule 26bis.2(c) and the PCT Applicant's Guide, Volume I, Annex B2(1B).
5. ☐ In case where **multiple priorities** have been claimed, the above item(s) relate to the following priority claim(s):
6. A copy of this notification has been sent to the receiving Office and
 - ☒ to the International Searching Authority (where the international search report has not yet been issued).
 - ☒ the designated Offices (which have already been notified of the receipt of the record copy).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. (41-22) 740.14.35</p>	<p>Authorized officer V. Gross</p> <p>Telephone No. (41-22) 338.83.38</p>
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PCT

**COMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE**

From the INTERNATIONAL BUREAU

To:

VERHEES, Godefridus, Josephus, Maria
Brabants Octrooibureau
De Pinckart 54
NL-5674 CC Nuenen
PAYS-BAS

Date of mailing (<i>day/month/year</i>) 12 January 2001 (12.01.01)	
Applicant's or agent's file reference BONG/WO-0256	REPLY DUE see paragraph 1 below
International application No. PCT/NL00/00423	International filing date (<i>day/month/year</i>) 16 June 2000 (16.06.00)
Applicant BONGERS, Cornelis, Margaretha, Theodorus, Maria	

1. ☐ REPLY DUE within _____ months/days from the above date of mailing
☐ NO REPLY DUE, however, see below
☐ IMPORTANT COMMUNICATION
☐ INFORMATION ONLY

2. COMMUNICATION:

The International Bureau regrets to inform the applicant that, due to the correction of the priority date, the above identified international application has not been published promptly after the expiration of 18 months from the priority date, as provided in PCT Article 21(2)(a).

International publication will now take place on **22 February 2001 (22.02.01)**.

Meanwhile, the International Bureau will communicate a copy of the international application to each designated Office, in accordance with PCT Article 20.

A copy of this notification has been sent to the receiving Office RO/NL, the ISA/EP and all designated Offices.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer V. Gross Telephone No. (41-22) 338.83.38
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PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

PCT/NL	00/00423
International Application No.	
16 JUN 2000	(20.00.00)
International Filing Date	
BUREAU VOOR DE INDUSTRIËLE EIGENDOM P.O.T. INTERNATIONAL APPLIC.	
Name of receiving Office and "PCT International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum) BONGWO-0256	

Box No. I TITLE OF INVENTION	
Working method for separately packaging various types of food in a single package as well as package manufactured according to this working method.	
Box No. II APPLICANT	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
Bongers, Cornelis Margaretha Theodorus Maria Dr. Klompélaan 20 5707 KR Helmond the Netherlands	
<input checked="" type="checkbox"/> This person is also inventor.	
Telephone No. +31 492 590555	
Facsimile No.	
Teleprinter No.	
State (that is, country) of nationality: The Netherlands	State (that is, country) of residence: The Netherlands
This person is applicant for the purposes of: <input checked="" type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
This person is:	
<input type="checkbox"/> applicant only	
<input type="checkbox"/> applicant and inventor	
<input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)	
State (that is, country) of nationality:	State (that is, country) of residence:
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input checked="" type="checkbox"/> agent <input type="checkbox"/> common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
Verhees, Godefridus Josephus Maria Brabants Octrooibureau De Pinckart 54 5674 CC Nuenen The Netherlands	
Telephone No. +31 40 2631129	
Facsimile No. +31 40 2835615	
Teleprinter No.	
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a)(mark the applicable check-boxes; at least one must be marked).

Regional Patent

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line)

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| <input checked="" type="checkbox"/> AE United Arab Emirates | <input checked="" type="checkbox"/> LR Liberia |
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| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BG Bulgaria | |
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| <input checked="" type="checkbox"/> HU Hungary | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> IL Israel | <input checked="" type="checkbox"/> UG Uganda |
| <input checked="" type="checkbox"/> IN India | <input checked="" type="checkbox"/> US United States of America |
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| <input checked="" type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> YU Yugoslavia |
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| <input checked="" type="checkbox"/> KR Republic of Korea | Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet: |
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Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: * regional Office	international application: receiving Office
item (1) 1999 6 JUN 2000 (16/06/2000) 1999 [NL] 1012346		Netherlands		
item (2)				
item (3)				

☒ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s): 1

* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used): ISA / EP	Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):		
	Date (day/month/year) 12/10/1999	Number SN 33182 NL	Country (or regional Office) EP

Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets: request : 3 description (excluding sequence listing part) : 3 claims : 2 abstract : 1 drawings : 3 sequence listing part of description : Total number of sheets : 17	This international application is accompanied by the item(s) marked below: 1. <input checked="" type="checkbox"/> fee calculation sheet 2. <input checked="" type="checkbox"/> separate signed power of attorney 3. <input type="checkbox"/> copy of general power of attorney; reference number, if any: 4. <input type="checkbox"/> statement explaining lack of signature 5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): 6. <input type="checkbox"/> translation of international application into (language): 7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material 8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form 9. <input type="checkbox"/> other (specify):
	Figure of the drawings which should accompany the abstract: 1

Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).


G.J.M. Verhees

For receiving Office use only		2. Drawings: <input checked="" type="checkbox"/> received: <input type="checkbox"/> not received:
1. Date of actual receipt of the purported international application: 16 JUN 2000 (16 JUN 2000)		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.	

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Date of receipt of the record copy by the International Bureau:	21 JULY 2000

Working method for separately packaging various types of food in a single package as well as package manufactured according to this working method.

EPO - DG 1

21. 08. 2000

5 BACKGROUND OF THE INVENTION

(91)

Field of the invention

10 The invention relates to a working method for separately packaging various types of food in a single package, comprising: placing food on a tray with various compartments that are open on one side with one type of food placed in each compartment after which a film structure is placed above the open sides of the compartments, whereby above each compartment a part of the film structure is placed, followed by fastening the film structure on the tray around the open sides of the compartments. The term film structure can
15 be understood to mean either one single film or a combination of various films on and/or beside each other, as well as film with a substance or a sticker on it.

Such packages are usually intended to allow consumers to quickly and easily prepare their own meals. Many or all of the necessary ingredients are present so that the consumer himself need not buy all the ingredients separately.

20

Prior art

Such a working method is known from European patent no. 0 293 794 B1. In this known working method various types of food are packaged in a single package. To
25 improve the shelf life of the various types of food, in the known working method the various types of food are stored under different atmospheric conditions. Some types of food are preferably stored in an oxygen-low environment while others instead are better stored in an atmosphere that is rich in oxygen. To this end, in the known working method the option exists of introducing preservative gases into the package during packaging in the various
30 compartments of the package. In the known working method the possibility also exists of creating overpressure, underpressure, or a vacuum in one or more of the compartments during packaging.

Summary of the invention

An objective of the invention is to provide a working method of the type described in the preamble for the packaging of various types of food in a single package, in which even better individual circumstances can be created for the various types of food than with the known working method. To this end the working method according to the invention is characterized by the fact that the film structure is composed and/or processed such that the characteristics of at least some of the specified parts of the film structure are different from each other. This creates circumstances for the food in the package that are even better adapted per type of food. For example the space in a compartment of the package can be fully sealed off from the outside environment by an gas-impermeable part of the film structure, or indeed interacting with the outside environment by way of a gas-permeable part of the film structure.

The differences between the characteristics of the parts of the film structure are preferably different in a material sense, for example gas permeability, which factors have an influence upon the condition of the food in the compartments. The imprinting of parts of a transparent film with ink has little or no effect on the condition of the food so there is hardly a difference from the parts of the film which are not imprinted.

By utilizing a differentiated film structure in which the closure of each compartment can be coordinated with the type of food present in the compartment and the condition of the food, an optimal environment can be created for the food. In this way even in a package where no separate gas atmospheres are present in the compartments good circumstances can nonetheless be obtained for the food.

An embodiment of the working method according to the invention is characterized by the fact that in the composition and/or processing of the film structure in at least a number of the specified parts an active element can be introduced into the film structure. The term active element should be understood to mean an element that reacts with substances in the food or substances that are emitted by the food.

Preferably the active element in the form of an active substance is placed in and/or on the parts of the film structure. For example the substance might be a material that reacts with the oxygen in the compartment and thus removes the oxygen from the compartment and the food. This is desirable for those types of food that can be stored best

in a low-oxygen atmosphere, for example for the protection of flavor and aroma against oxidation. Such substances are generally known, for example films that contain iron powder. The iron powder rusts and oxygen is withdrawn from the food and the atmosphere in the compartment. Instead of iron powder ascorbic acid or sulphite can also be used as an active
5 substance. These substances, too, oxidize and oxygen is withdrawn from the food and the atmosphere in the compartment. In addition, enzymatic-acting substances can be applied to the film, such as glucose oxidase or ethanol oxidase in which enzymes are catalysts for an oxygen-consuming reaction.

The substance can also be a material, for example, that absorbs oxygen, for
10 example a film of nylon polymer in which cobalt is present for a cobalt-catalyzed oxidation of the nylon polymer. Instead of, or in addition to, oxygen-absorbing substances, the film or sticker can also contain CO₂ absorbing or emitting substances, or ethylene absorbing substances, ethanol emitting substances, moisture-absorbing substances, etc. All of these substances are generally known.

The active element can also be formed by applying a film structure that is
15 activated upon radiation. By only radiating a number of the parts of the film structure, a film structure with varying characteristics is created. The material of the film structure should in this case be such that its characteristics can be changed by radiation or because certain substances in the material of the film structure can be activated by radiation. For example
20 the material of the film structure can discolor in response to radiation and form a light barrier. In addition, as a result of radiation the material can be activated such that for example it obtains the characteristic that it reacts to oxygen and thus removes the oxygen from the compartment. Such a film is known from European patent application EP-A 0 520 257. This known film contains a combination of an oxidizable organic compound and a
25 metallic transference catalyst. Here oxidation of the organic compound can be initiated by radiation. The manner of radiating is known from the international patent application WO 99/21699. Through this reference both documents are included in the present patent application. In this way food can be packaged both in a low-oxygen environment and a high-oxygen environment in a single package.

30 Processing the film structure can comprise for example placing perforations in at least a number of the parts of the film structure, for example to allow the food to breathe. The size of the perforations or the number of perforations can be adjusted

depending on the degree of respiration of the food. A film with microperforations can also be used.

A further embodiment of the working method according to the invention is characterized in that at the composition and/or processing of the film structure in at least
5 some of the parts of the film structure, a passive element is introduced that manipulates radiation. Under a passive element that manipulates radiation one should think of an element that can resist radiation - for example microwaves in a microwave oven - reflect them, redistribute them, or absorb them and convert them into heat. For example an aluminum film can modify the field in a microwave such that the capacity in the microwave unit is
10 redistributed and even heating is obtained. Materials that can absorb microwave energy and convert it into heat are, for example, aluminum, stainless steel and inconel.

The composition of the film structure can for example take place by using first one film and then on parts of that film placing a second film or sticker. The second film or sticker can for example contain the above-mentioned active substance or consist of one
15 of the above-mentioned materials that influence radiation. Or the first film can be perforated and the second film or sticker can be gas impermeable and seal off parts of the first film.

The film structure can also be composed for example by fastening two films to each other, after which one of the films is locally removed. The one film can for example be perforated and the other film can be a gas-impermeable film that is placed in separate
20 parts on the perforated film. Parts of the gas-impermeable film can for example be peeled off the perforated film.

Yet another method of composing the film structure can for example be to place two or more films with different characteristics beside each other on the tray. For example the various films can contain an active substance, be perforated, be made of a
25 radiation-influencing material, or be gas impermeable. Possibly the films can first be connected with each other before being placed on the tray.

The composition and/or processing of the film structure preferably takes place before food is placed on the tray. This decreases the chance that waste materials that may occur during the processing end up in the food.

30 Another favorable embodiment of the working method according to the invention is characterized in that, before the film structure is composed and/or processed, first the characteristics of the food are determined, after which the composition and/or

processing of the film structure takes place according to the characteristics of the food. Thus the conditions under which the food is stored can be better coordinated with the actual condition of the food. For example, if the respiration of the food is high, it may be desirable that the space in the compartment be more connected with the environment, such that a film structure with high permeability is desirable.

The invention also relates to a package manufactured according to the working method according to the invention comprising a tray with various compartments in which various types of food are present, with one type of food in each compartment, which compartments are closed off by a film structure that is connected to the tray around the openings of the compartments, where above each compartment part of the film structure is present.

As far as the package is concerned the invention is characterized in that the characteristics of at least some of the parts of the film structure are different. For example in at least some of the parts of the film structure there can be perforations, in and/or on at least a number of parts of the film structure an active element or active substance can be present, or at least in a number of parts of the film structure a passive element can be present that manipulates radiation.

In addition, the various characteristics can be acquired because the film structure is comprised of various films, for example a first film and a second film or a sticker that is present on parts of the first film, or two or more films beside each other with different characteristics.

Brief description of the drawings

The invention will be elucidated more fully below on the basis of drawings in which embodiments of the working method and the package according to the invention are shown. In these drawings:

Figure 1 shows an embodiment of the package according to the invention in a top view;

Figure 2 shows the illustration in Figure 1 as a cross-section;

Figure 3 shows a diagram of a first embodiment of the working method according to the invention;

Figure 4 shows a diagram of a second embodiment of the working method according to the invention;

Figure 5 shows a first embodiment of the composition of the film structure; and

5 Figure 6 shows a second embodiment of the composition of the film structure.

Detailed description of the drawings

10 In Figures 1 and 2 an embodiment of the package according to the invention is shown in a top view respectively cross-section along line A-A. The package 1 is comprised of a tray 3 that has various compartments 5, 7, and 9 that are open on top. The compartments are closed off by a film structure 11 that is fastened via sealing seams 13 to flanges 15 of the tray 3.

15 In the compartments 5, 7, 9 there are various types of food 17, 19. For each type of food an optimal closure of the compartment is present, because the film structure 11 is divided into various parts 21, 23, 25, that have different characteristics and each close off a compartment. For example part 21 and parts 23 and 25 form individual films 27 and 29 that are fastened side by side on the tray. Films 27 and 29 are for example transparent gas-impermeable films. To obtain optimal conditions in the compartments, for example, part 23 of the film 29 is provided with perforations 31 and another part 25 of the film 29 has a non-transparent sticker 33 that seals off the space in the compartment against light.

20 To further improve the conditions under which the various types of food are packaged, various preservative gases 35, 37 can be introduced into the compartments.

25 Figure 3 is a diagram showing a first embodiment of the working method according to the invention for packaging different types of food in a single package. Here in a separate production process 41 the film structure 43 is manufactured. In this production process 41 various films 45, 47 can be fastened on or on top of each other and/or the film structure can be processed. The fastening and/or the processing takes place in a machine 49.

30 The film structure 43 is then brought into a further production process 51. In this production process 51 trays 53 are filled with different types of food 55, 57. Then the film structure 43 is brought above the open side of the tray 53. Then the film structure 43

is sealed on the tray 53 by melting the film structure 43 to the tray 53 with a heated sealing stamp 59.

Figure 4 is a diagram showing a second embodiment of the working method according to the invention. Here the process of composing and/or processing the film structure is integrated into the process of filling the trays and the fastening of the film structure to the trays. After filling the compartments of the tray 53 with different types of food 55, 57 the condition of the food is measured. Depending on the conditions the machine 49 is set. In this manner for example the number of perforations per surface unit can be set. Thus the package can be even better coordinated with regard to the type of food being packaged.

The film structure can be comprised in various ways. Figure 5 shows a first embodiment of the composition of the film structure and placement on a tray. Here the two different films 61 and 63 form, side by side, the film structure 65, and each film seals off one or more compartments of the tray 67.

Figure 6 shows a second embodiment of the composition of the film structure. Here two different films 71 and 73 are fastened to each other and form a film structure. The film structure thus formed 75 possesses different parts 77 and 79 to seal off different compartments of the trays 81.

Although the invention is explained above on the basis of drawings, it should be stressed that the invention is in no way limited to the embodiments shown in the drawings. The invention also extends to all embodiments deviating from the embodiments shown in the drawings within the context defined by the claims.

CLAIMS:

1. Working method for separately packaging various types of food in a single package, comprising:

- placing food on a tray with different compartments open on one side, with one type of food being placed in each compartment,
- then placing a film structure above the open sides of the compartments, whereby above each compartment a part of the film structure is placed,
- followed by fastening the film structure to the tray around the openings of the compartments,

characterized in that the film structure is comprised and/or processed such that the characteristics of at least some of the specified parts of the film structure are different from each other.

2. Working method according to claim 1, characterized in that at the composition and/or processing of the film structure in at least some of the parts mentioned an active element is introduced into the film structure.

3. Working method according to claim 2, characterized in that the active element in the form of an active substance is placed in and/or on the parts of the film structure.

4. Working method according to claim 2 or 3, characterized in that at least some of the parts of the film structure are irradiated.

5. Working method according to one of the preceding claims, characterized in that there are perforations in at least some of the parts of the film structure.

6. Working method according to one of the preceding claims, characterized in that in at least some of the parts of the film structure a passive element is placed that manipulates radiation.

7. Working method according to one of the preceding claims, characterized in that the film structure is comprised of a first film with a second film or sticker being placed on parts of the first film.

8. Working method according to one of the preceding claims, characterized in that the film structure is comprised by fastening two films on each other, after which one of the films is removed locally.

9. Working method according to one of the preceding claims, characterized in

that the film structure is comprised of two or more adjacent films with different characteristics.

10. Working method according to one of the preceding claims, characterized in that the composition and/or processing of the film structure takes place before food is placed on the tray.

11. Working method according to one of the preceding claims, characterized in that before the film structure is comprised and/or processed first the characteristics of the food are determined, after which the composition and/or processing of the film structure takes place in accordance with the characteristics of the food.

12. Package manufactured according to a working method according to one of the preceding claims, comprising a tray with various compartments in which different types of food are present, with one type of food being present in each compartment, which compartments are closed off by a film structure that is fastened to the tray around the openings of the compartments, with part of the film structure being present above each compartment of the tray, characterized in that the characteristics of at least a number of parts of the film structure are different from each other.

13. Package according to claim 12, characterized in that in at least some of the specified parts an active element is present in the film structure.

14. Package according to claim 13, characterized in that the active element in the form of an active substance is present in and/or on the parts of the film structure.

15. Package according to claim 12, 13 or 14, characterized in that there are perforations in at least some of the parts of the film structure.

16. Package according to claim 12, 13, 14 or 15, characterized in that in at least some of the parts of the film structure a passive element is present and manipulates radiation.

17. Package according to one of the preceding claims 12 through 16, characterized in that the film structure is comprised of a first film in which on parts of this film a second film or a sticker is present.

18. Package according to one of the preceding claims 12 through 17, characterized in that the film structure is comprised of two or more adjacent films with different characteristics.

ABSTRACT:

Working method for separately packaging various types of food in a single package as well as package manufactured according to this working method.

5

In a working method for the separate packaging of different types of food in a single package, food is placed on a tray 3 with different compartments 5, 7, and 9 open on one side, with one type of food being placed in each compartment. Subsequently a film structure film 11 is placed above the open sides of the compartments, with a part 21, 23, 25 of the film structure being placed above each compartment. Then the film structure 11 is fastened to the tray 3 around the openings of the compartments.

10

To optimize the conditions in which the food is packaged for each type of food, the film structure 11 is comprised and/or processed such that the characteristics of the specified parts 21, 23, 25 of the film structure are different from each other.

15

These circumstances can be improved even more by first determining, before comprising and/or processing the film structure 11, the characteristics of the food and then executing the composition and/or processing of the film structure 11 depending on the characteristics of the food.

20

(Figure 1)

1 / 3

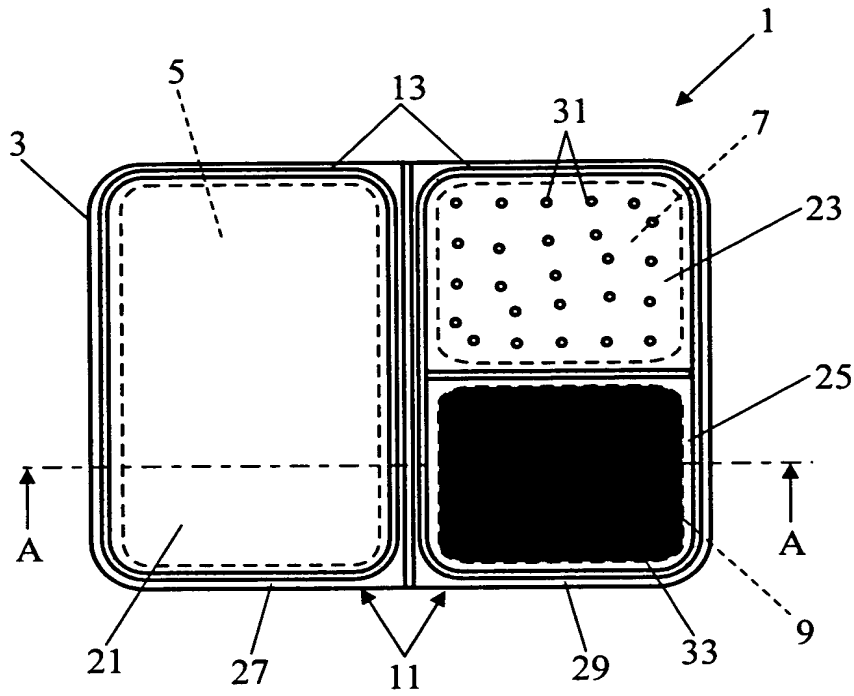


FIG. 1

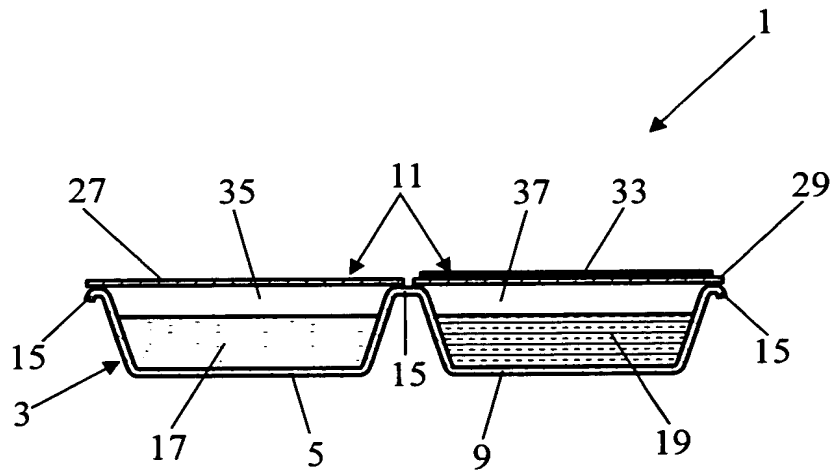


FIG. 2

2 / 3

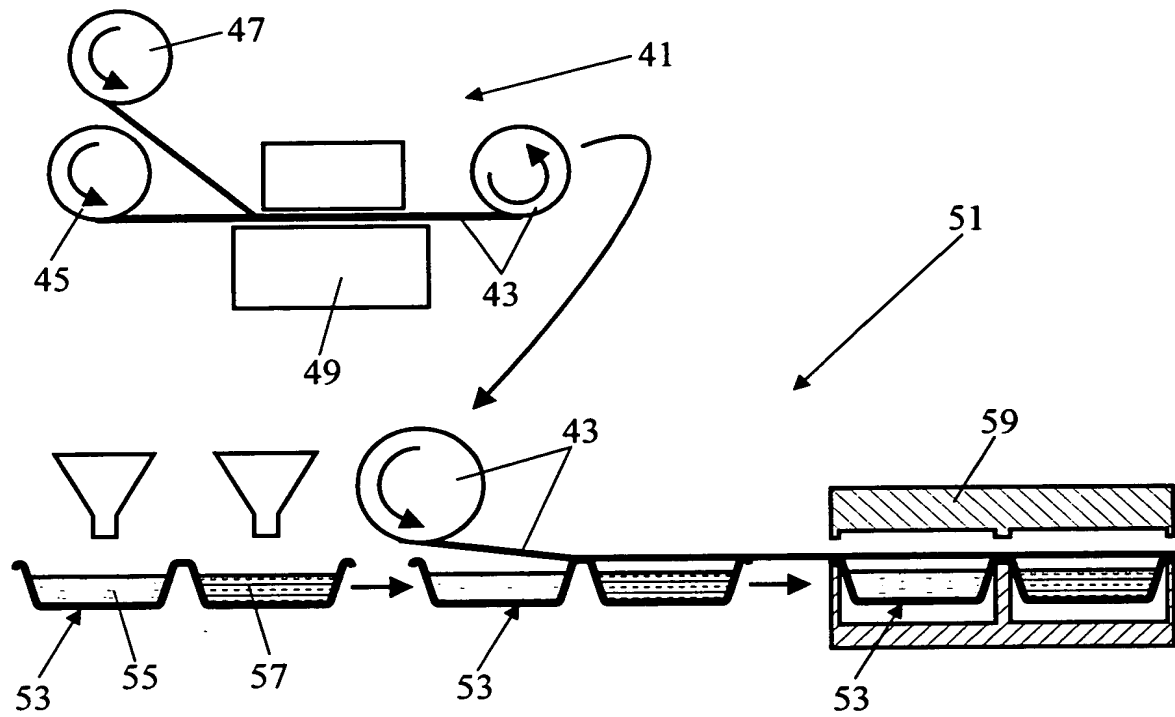


FIG. 3

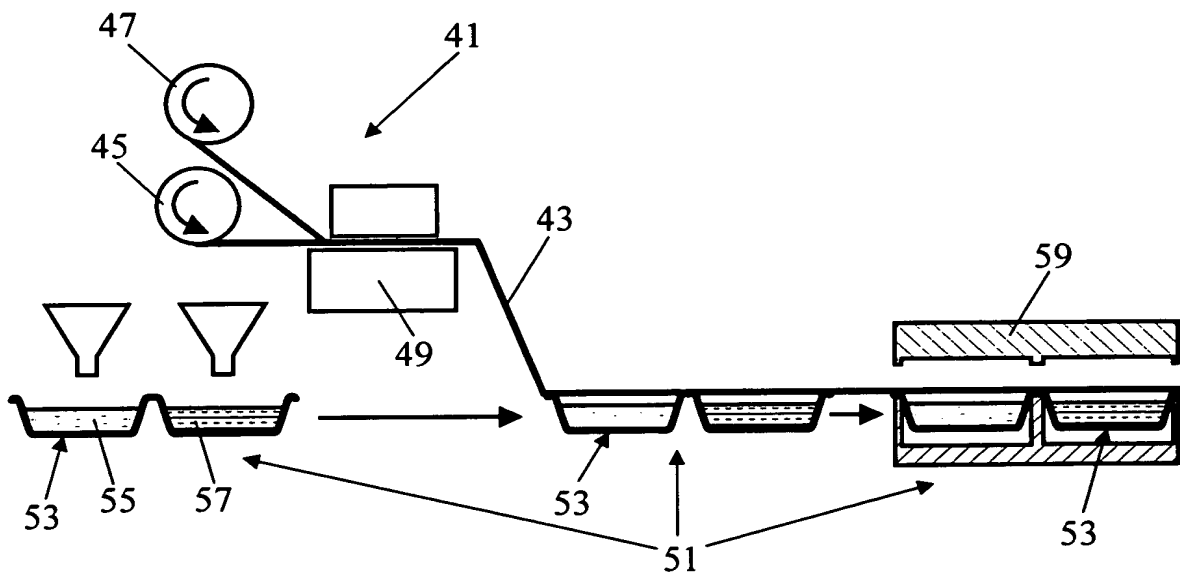


FIG. 4

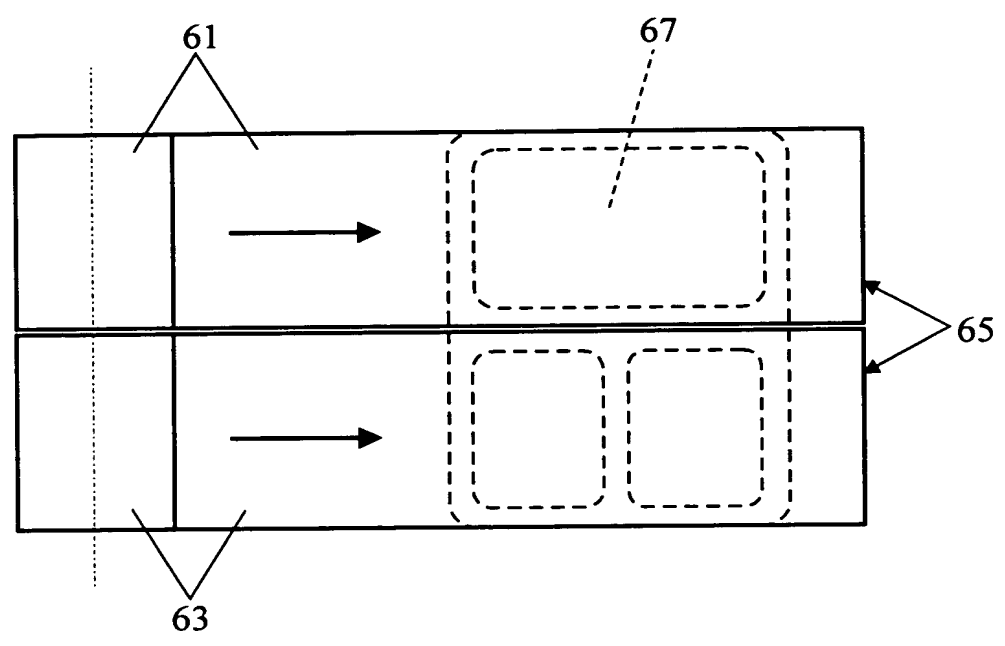


FIG. 5

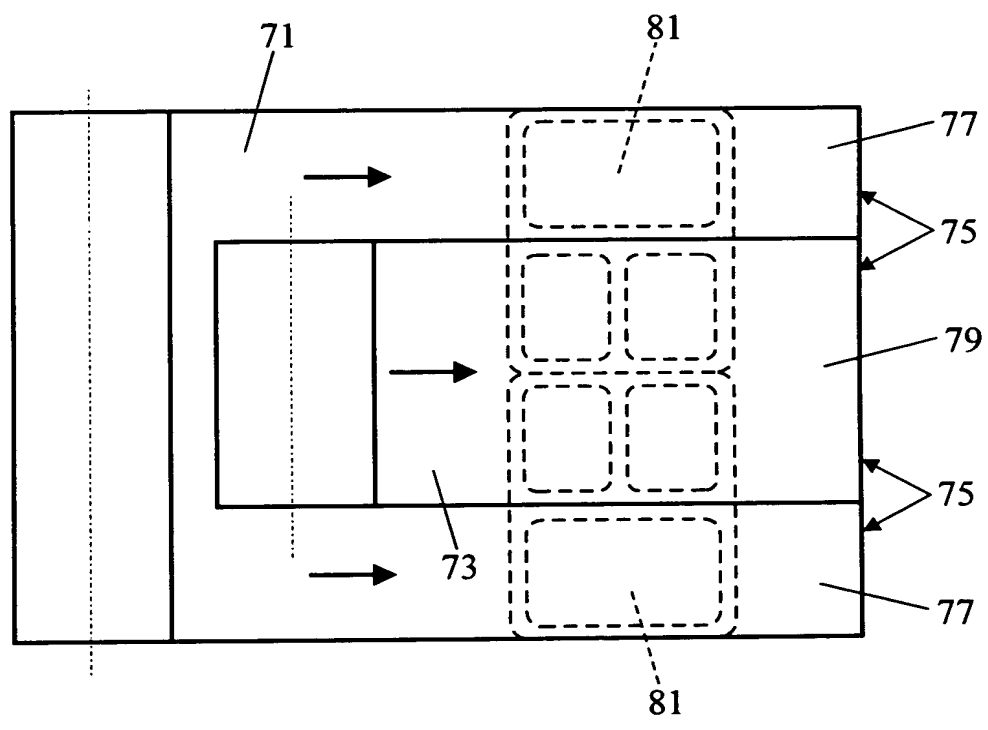


FIG. 6

Werkwijze voor het afzonderlijk verpakken van verschillende soorten voedsel in één verpakking, alsmede verpakking vervaardigd volgens de werkwijze.

5 **BESCHRIJVING:**

Gebied van de uitvinding.

10 De uitvinding heeft betrekking op een werkwijze voor het afzonderlijk verpakken van verschillende soorten voedsel in één verpakking, omvattende: het plaatsen van voedsel in een tray met verscheidene, aan een zijde open bakken, waarbij in elke bak één soort voedsel geplaatst wordt, vervolgens het brengen van een foliestructuur boven de open zijden van de bakken, waarbij boven elke bak een deel van de foliestructuur gebracht wordt, gevolgd door het bevestigen van de foliestructuur aan de tray rond de openingen van de
15 bakken. Onder foliestructuur kan zowel één enkele folie verstaan worden, als een samenstel van verscheidene folies op en/of naast elkaar, als ook een folie met een stof en/of sticker erop.

Dergelijke verpakkingen zijn meestal bestemd voor consumenten om snel en eenvoudig zelf een maaltijd te bereiden. Hierbij zijn veel of alle benodigde ingrediënten in
20 de verpakking aanwezig zodat de consument niet zelf alle ingrediënten bij elkaar hoeft te kopen.

Stand van de techniek.

25 Een dergelijke werkwijze is bekend uit het Europese octrooi nr. 0 293 794 B1. Bij deze bekende werkwijze worden verschillende soorten voedsel verpakt in één verpakking. Om de houdbaarheid van de verschillende soorten voedsel te verbeteren, worden bij de bekende werkwijze de verschillende soorten voedsel onder verschillende atmosferische omstandigheden bewaard. Sommige soorten voedsel dienen bij voorkeur in
30 een zuurstofarme omgeving bewaard te worden, terwijl andere juist beter in een zuurstofrijke omgeving bewaard kunnen worden. Hiertoe bestaat in de bekende werkwijze de mogelijkheid om in de verschillende bakken van de verpakking tijdens het verpakken

verschillende conserveringsgassen te brengen. Ook bestaat in de bekende werkwijze de mogelijkheid dat tijdens het verpakken in één of meer van de bakken een overdruk, onderdruk of vacuüm gecreëerd wordt.

5 Samenvatting van de uitvinding.

Een doel van de uitvinding is het verschaffen van een werkwijze, van de in de aanhef omschreven soort, voor het verpakken van verschillende soorten voedsel in één verpakking, waarbij voor de verschillende soorten voedsel nog betere individuele omstandigheden geschapen kunnen worden dan bij de bekende werkwijze. Hiertoe is de werkwijze volgens de uitvinding gekenmerkt, doordat de foliestructuur samengesteld en/of bewerkt wordt zodanig dat de eigenschappen van althans een aantal van de genoemde delen van de foliestructuur verschillend zijn. Hierdoor kunnen de omstandigheden waaronder het voedsel in de verpakking aanwezig is nog beter per soort voedsel aangepast worden. Zo kan bijvoorbeeld de ruimte in een bak van de verpakking volledig afgesloten zijn van de buitenomgeving door een gasdicht gedeelte van de foliestructuur, of juist in wisselwerking met de buitenomgeving staan door een gasdoorlatend gedeelte van de foliestructuur.

De verschillen tussen de eigenschappen van de delen van de foliestructuur zijn bij voorkeur verschillen in materiaaleigenschappen, bijvoorbeeld gasdoorlaatbaarheid, die invloed hebben op de toestand van het voedsel in de bakken. Het bedrukt zijn van delen van een doorzichtige folie met inkt heeft geen of nauwelijks invloed op de toestand van het voedsel en vormt daardoor nauwelijks een verschil met de niet bedrukte delen van de folie.

Door een gedifferentieerde foliestructuur toe te passen waarbij de afsluiting van elke bak van de verpakking afgestemd kan worden op het soort voedsel dat in de bak aanwezig is en op de toestand van het voedsel, kan een optimale omgeving voor het voedsel gecreëerd worden. Hierdoor kan zelfs bij een verpakking waarin geen afzonderlijke gasatmosferen in de bakken aanwezig zijn, toch goede omstandigheden voor het voedsel verkregen worden.

Een uitvoeringsvorm van de werkwijze volgens de uitvinding is gekenmerkt, doordat bij het samenstellen en/of bewerken van de foliestructuur in althans een aantal van de genoemde delen een actief element in de foliestructuur wordt aangebracht. Onder een actief element dient een element te worden verstaan dat reageert met stoffen in het voedsel

of stoffen die door het voedsel worden afgegeven.

Bij voorkeur wordt het actieve element in de vorm van een actieve stof in en/of op de delen van de foliestructuur aangebracht. De stof kan bijvoorbeeld een materiaal zijn dat met de zuurstof in de bak reageert en zo de zuurstof uit de bak en het voedsel 5 onttrekt. Dit is gewenst voor die soorten voedsel die het beste in een zuurstofarme atmosfeer bewaard kunnen worden, bijvoorbeeld voor het beschermen van geur- en smaakstoffen tegen oxidatie. Dergelijke stoffen zijn algemeen bekend, bijvoorbeeld folies die ijzerpoeder bevatten. Het ijzerpoeder roest waarbij zuurstof onttrokken wordt aan het voedsel en de atmosfeer in de bak. In plaats van ijzerpoeder kan ook ascorbinezuur of sulfiet 10 toegepast worden als actieve stof. Ook deze stoffen oxideren waarbij zuurstof onttrokken wordt uit het voedsel en de atmosfeer in de bak. Ook kunnen enzymatisch werkende stoffen op de folie worden aangebracht, zoals glucose-oxidase, ethanoloxidase, waarbij enzymen een zuurstofverbruikende reactie katalyseren.

Ook kan de stof bijvoorbeeld een materiaal zijn dat zuurstof absorbeert, 15 bijvoorbeeld een folie uit een nylonpolymeer waarin kobalt aanwezig is voor een kobalt gekatalyseerde oxidatie van de nylonpolymeer. In plaats van of naast zuurstof absorberende stoffen, kan de folie of sticker ook CO₂ absorberende of uitstralende stoffen bevatten, of ethyleen absorberende stoffen, ethanol uitstralende stoffen, vocht absorberende stoffen, etc. Al deze stoffen zijn algemeen bekend.

20 Het actieve element kan ook gevormd worden door een foliestructuur toe te passen die bij bestraling geactiveerd wordt. Door slechts een aantal van de delen van de foliestructuur te bestralen, wordt een foliestructuur met verschillende eigenschappen gecreëerd. Het materiaal van de foliestructuur dient in dit geval zodanig te zijn, dat de eigenschappen ervan door straling veranderd kunnen worden of doordat bepaalde stoffen 25 in het materiaal van de foliestructuur door straling geactiveerd kunnen worden. Bijvoorbeeld kan het materiaal van de foliestructuur door straling verkleuren en een lichtbarrière vormen. Ook kan het materiaal door bestraling geactiveerd worden zodat het bijvoorbeeld de eigenschap krijgt dat het met zuurstof reageert en zo de zuurstof uit de bak onttrekt. Een dergelijke folie is bekend uit de Europese octrooiaanvraag EP-A 0 520 257. Deze bekende 30 folie bevat een samenstelling van een oxideerbare organische verbinding en een metallische overgangskatalysator. Hierbij kan oxidatie van de organische verbinding geïnitieerd worden door straling. De wijze van bestralen is bekend uit de internationale octrooiaanvraag WO

99/21699. Beide documenten zijn door deze verwijzing in de huidige octrooiaanvraag opgenomen. Op deze wijze kan zowel voedsel in een zuurstofarme omgeving als ook voedsel in een zuurstof houdende omgeving verpakt worden in één verpakking.

5 Het bewerken van de foliestructuur kan bijvoorbeeld het aanbrengen van perforaties in althans een aantal van de delen van de foliestructuur omvatten, bijvoorbeeld om het voedsel te kunnen laten ademen. De grootte van de perforaties of het aantal perforaties kan ingesteld worden afhankelijk van de mate van respiratie van het voedsel. Ook kan een folie waarin microperforaties gevormd zijn, toegepast worden.

10 Een verdere uitvoeringsvorm van de werkwijze volgens de uitvinding is gekenmerkt, doordat bij het samenstellen en/of bewerken van de foliestructuur in althans een aantal van de delen van de foliestructuur een passief element aangebracht wordt dat straling manipuleert. Onder een passief element dat straling manipuleert, dient een element verstaan te worden dat straling, bijvoorbeeld microgolven in een magnetron, kan tegenhouden, weerkaatsen, kan herverdelen, of kan absorberen en omzetten in warmte. Bijvoorbeeld een
15 aluminium folie kan het veld in een magnetron modificeren waardoor het vermogen in de magnetron herverdeeld wordt en een gelijkmatige verhitting verkregen wordt. Materialen die microgolf energie kunnen absorberen en omzetten in warmte zijn bijvoorbeeld aluminium, roestvast staal en inconel.

20 Het samenstellen van de foliestructuur kan bijvoorbeeld plaatsvinden door een eerste folie te nemen en op delen ervan een tweede folie of een sticker aan te brengen. De tweede folie of sticker kan bijvoorbeeld de hiervoor genoemde actieve stof bevatten of uit een hiervoor genoemd materiaal bestaan dat straling beïnvloedt. Ook kan de eerste folie geperforeerd zijn en kan de tweede folie of sticker gasdicht zijn en delen van de eerste folie afsluiten.

25 Het samenstellen van de foliestructuur kan bijvoorbeeld ook plaatsvinden door twee folies op elkaar te bevestigen, waarna één van de folies plaatselijk verwijderd wordt. De ene folie kan bijvoorbeeld voorzien zijn van perforaties en de andere folie kan een gasdichte folie zijn die in afzonderlijke delen op de geperforeerde folie is aangebracht. Delen van de gasdichte folie kunnen dan bijvoorbeeld van de geperforeerde folie afgepeld worden.

30 Nog een verdere wijze van samenstellen van de foliestructuur kan bijvoorbeeld zijn aanbrengen van twee of meer folies met verschillende eigenschappen naast elkaar op de tray. Bijvoorbeeld kunnen de verschillende folies een actieve stof bevatten,

geperforeerd zijn, uit een straling beïnvloedend materiaal vervaardigd zijn of gasdichtzijn. Eventueel kunnen de folies eerst met elkaar verbonden worden voordat zij op de tray aangebracht worden.

5 Het samenstellen en/of bewerken van de foliestructuur vindt bij voorkeur plaats voordat voedsel in de tray wordt geplaatst. Hierdoor wordt de kans verkleind dat afvalstoffen die tijdens het bewerken kunnen ontstaan in het voedsel terecht kunnen komen.

10 Een verdere gunstige uitvoeringsvorm van de werkwijze volgens de uitvinding is gekenmerkt, doordat, voordat de foliestructuur samengesteld en/of bewerkt wordt, eerst de eigenschappen van het voedsel bepaald worden, waarna het samenstellen en/of bewerken van de foliestructuur geschiedt al naar gelang de eigenschappen van het voedsel. Zo kunnen de condities waaronder het voedsel bewaard wordt nog beter op de actuele toestand van het voedsel worden afgestemd. Bijvoorbeeld, indien de respiratie van het voedsel hoog is, dan kan het gewenst zijn dat de ruimte in de bak meer in verbinding staat met de omgeving, waardoor een foliestructuur met een grote luchtdoorlaatbaarheid
15 gewenst is.

De uitvinding heeft tevens betrekking op een verpakking vervaardigd volgens de werkwijze volgens de uitvinding, omvattende een tray met verscheidene bakken waarin verschillende soorten voedsel aanwezig zijn, waarbij in elke bak één soort voedsel aanwezig is, welke bakken afgesloten zijn door een foliestructuur die rond de openingen van de bakken aan de tray is bevestigd, waarbij boven elke bak een deel van de foliestructuur
20 aanwezig is.

Voor hetgeen betreft de verpakking is de uitvinding gekenmerkt, doordat de eigenschappen van althans een aantal van de delen van de foliestructuur verschillend zijn. Bijvoorbeeld kunnen in althans een aantal van de delen van de foliestructuur perforaties
25 aanwezig zijn, kan in en/of op althans een aantal van de delen van de foliestructuur een actief element of actieve stof aanwezig zijn, of kan in althans een aantal van de delen van de foliestructuur een passief element aanwezig zijn dat straling manipuleert.

Ook kunnen de verschillende eigenschappen verkregen zijn doordat de foliestructuur samengesteld is uit verschillende folies, bijvoorbeeld een eerste folie en een
30 tweede folie of een sticker die op delen van de eerste folie aanwezig is, of twee of meer naast elkaar aanwezige folies met verschillende eigenschappen.

Beknopte omschrijving van de tekeningen.

Hieronder zal de uitvinding nader worden toegelicht aan de hand van in de tekeningen weergegeven uitvoeringsvoorbeelden van de werkwijze en de verpakking volgens de uitvinding. Hierbij toont:

Figuur 1 een uitvoeringsvorm van de verpakking volgens de uitvinding in bovenaanzicht;

Figuur 2 de in figuur 1 weergegeven verpakking in doorsnede;

Figuur 3 een schematische weergave van een eerste uitvoeringsvorm van de werkwijze volgens de uitvinding;

Figuur 4 een schematische weergave van een tweede uitvoeringsvorm van de werkwijze volgens de uitvinding;

Figuur 5 een eerste uitvoeringsvorm van het samenstellen van de foliestructuur; en

Figuur 6 een tweede uitvoeringsvorm van het samenstellen van de foliestructuur.

Gedetailleerde omschrijving van de tekeningen.

In de figuren 1 en 2 is een uitvoeringsvorm van de verpakking volgens de uitvinding weergegeven in bovenaanzicht respectievelijk doorsnede langs lijn A-A. De verpakking 1 is opgebouwd uit een tray 3 die verscheidene, aan de bovenzijde open, bakken 5, 7, 9 omvat. De bakken zijn afgesloten door een foliestructuur 11, die langs sealnaden 13 is bevestigd aan flenzen 15 van de tray 3.

In de bakken 5, 7, 9 bevinden zich verschillende soorten voedsel 17, 19. Voor elke soort voedsel is een optimale afsluiting van de bak aanwezig, doordat de foliestructuur 11 onderverdeeld is in verschillende delen 21, 23, 25, die verschillende eigenschappen bezitten en elk een bak afsluiten. Bijvoorbeeld vormen het deel 21 en de delen 23 en 25 afzonderlijke folies 27 en 29, die naast elkaar op de tray bevestigd zijn. De folies 27 en 29 zijn bijvoorbeeld doorzichtige, gasdichte folies. Om optimale condities in de bakken te verkrijgen is bijvoorbeeld een deel 23 van de folie 29 voorzien van perforaties 31 en is een ander deel 25 van de folie 29 voorzien van een ondoorzichtige sticker 33, die de ruimte in

de bak afsluit tegen licht.

Om de omstandigheden waaronder de verschillende soorten voedsel verpakt worden verder te verbeteren, kunnen in de bakken verschillende conserveringsgassen 35, 37 gebracht worden.

5 In figuur 3 is schematisch een eerste uitvoeringsvorm van de werkwijze volgens de uitvinding weergegeven voor het verpakken van verschillende soorten voedsel in één verpakking. Hierbij wordt in een afzonderlijk productieproces 41 de foliestructuur 43 vervaardigd. In dit productieproces 41 kunnen verschillende folies 45, 47 op of aan elkaar worden bevestigd en/of kan de foliestructuur bewerkt worden. De bevestiging en/of de
10 bewerking vindt plaats in een machine 49.

De foliestructuur 43 wordt vervolgens in een verder productieproces 51 gebracht. In dit productieproces 51 worden trays 53 gevuld met verschillende soorten voedsel 55, 57. Vervolgens wordt de foliestructuur 43 boven de open zijde van de tray 53 gebracht. Daarna wordt de foliestructuur 43 aan de tray 53 geseald door met een verhitte
15 sealstempel 59 de foliestructuur 43 aan de tray 53 te smelten.

In figuur 4 is schematisch een tweede uitvoeringsvorm van de werkwijze volgens de uitvinding weergegeven. Hierbij is het proces van samenstellen en/of bewerken van de foliestructuur geïntegreerd in het proces van het vullen van de trays en het bevestigen van de foliestructuur aan de trays. Na het vullen van de bakken van de tray 53 met
20 verschillende soorten voedsel 55, 57 wordt de conditie van het voedsel gemeten. Afhankelijk van de conditie wordt de machine 49 ingesteld. Op deze wijze kan bijvoorbeeld het aantal perforaties per oppervlakte-eenheid ingesteld worden. Zo kan de verpakking nog beter afgestemd worden op het te verpakken voedsel.

Het samenstellen van de foliestructuur kan op verschillende wijzen gebeuren.

25 In figuur 5 is een eerste uitvoeringsvorm van het samenstellen van de foliestructuur en het aanbrengen op een tray weergegeven. Hierbij vormen twee verschillende folies 61 en 63 naast elkaar de foliestructuur 65 en sluit elke folie één of meer bakken van de tray 67 af.

In figuur 6 is een tweede uitvoeringsvorm van het samenstellen van de foliestructuur weergegeven. Hierbij worden twee verschillende folies 71 en 73 op elkaar
30 bevestigd en vormen. De zo gevormde foliestructuur 75 bezit verschillende delen 77 en 79 voor het afsluiten van verschillende bakken van de trays 81.

Hoewel in het voorgaande de uitvinding is toegelicht aan de hand van de

tekeningen, dient te worden vastgesteld dat de uitvinding geenszins tot de in de tekeningen getoonde uitvoeringsvormen is beperkt. De uitvinding strekt zich mede uit tot alle van de in de tekeningen getoonde uitvoeringsvormen afwijkende uitvoeringsvormen binnen het door de conclusies gedefinieerde kader.

CONCLUSIES:

1. Werkwijze voor het afzonderlijk verpakken van verschillende soorten voedsel in één verpakking, omvattende:
 - het plaatsen van voedsel in een tray met verscheidene, aan een zijde open bakken, waarbij in elke bak één soort voedsel geplaatst wordt,
 - vervolgens het brengen van een foliestructuur boven de open zijden van de bakken, waarbij boven elke bak een deel van de foliestructuur gebracht wordt,
 - gevolgd door het bevestigen van de foliestructuur aan de tray rond de openingen van de bakken,
- 10 met het kenmerk, dat de foliestructuur samengesteld en/of bewerkt wordt zodanig dat de eigenschappen van althans een aantal van de genoemde delen van de foliestructuur verschillend zijn.
2. Werkwijze volgens conclusie 1, met het kenmerk, dat bij het samenstellen en/of bewerken van de foliestructuur in althans een aantal van de genoemde delen een actief
- 15 element in de foliestructuur wordt aangebracht.
3. Werkwijze volgens conclusie 2, met het kenmerk, dat het actieve element in de vorm van een actieve stof in en/of op de delen van de foliestructuur wordt aangebracht.
4. Werkwijze volgens conclusie 2 of 3, met het kenmerk, dat althans een aantal van de delen van de foliestructuur bestraald worden.
- 20 5. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat in althans een aantal van de delen van de foliestructuur perforaties aangebracht worden.
6. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat in althans een aantal van de delen van de foliestructuur een passief element aangebracht wordt dat straling manipuleert.
- 25 7. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat de foliestructuur samengesteld wordt uit een eerste folie waarbij op delen ervan een tweede folie of een sticker wordt aangebracht.
8. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat de foliestructuur samengesteld wordt door twee folies op elkaar te bevestigen, waarna één van
- 30 de folies plaatselijk wordt verwijderd.
9. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat de foliestructuur samengesteld wordt uit twee of meer naast elkaar aanwezige folies met

verschillende eigenschappen.

10. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat het samenstellen en/of bewerken van de foliestructuur plaatsvindt voordat voedsel in de tray geplaatst wordt.
- 5 11. Werkwijze volgens één der voorgaande conclusies, met het kenmerk, dat voordat de foliestructuur samengesteld en/of bewerkt wordt eerst de eigenschappen van het voedsel bepaald worden, waarna het samenstellen en/of bewerken van de foliestructuur geschiedt al naar gelang de eigenschappen van het voedsel.
12. Verpakking vervaardigd volgens een werkwijze volgens één der voorgaande
- 10 conclusies, omvattende een tray met verscheidene bakken waarin verschillende soorten voedsel aanwezig zijn, waarbij in elke bak één soort voedsel aanwezig is, welke bakken afgesloten zijn door een foliestructuur die rond de openingen van de bakken aan de tray is bevestigd, waarbij boven elke bak een deel van de foliestructuur aanwezig is, met het kenmerk, dat de eigenschappen van althans een aantal van de delen van de foliestructuur
- 15 verschillend zijn.
13. Verpakking volgens conclusie 12, met het kenmerk, dat in althans een aantal van de genoemde delen een actief element in de foliestructuur aanwezig is.
14. Verpakking volgens conclusie 13, met het kenmerk, dat het actieve element in de vorm van een actieve stof in en/of op de delen van de foliestructuur aanwezig is.
- 20 15. Verpakking volgens conclusie 12, 13 of 14, met het kenmerk, dat in althans een aantal van de delen van de foliestructuur perforaties aanwezig zijn.
16. Verpakking volgens conclusie 12, 13, 14 of 15, met het kenmerk, dat in althans een aantal van de delen van de foliestructuur een passief element aanwezig is dat straling manipuleert.
- 25 17. Verpakking volgens één der voorgaande conclusies 12 tot en met 16, met het kenmerk, dat de foliestructuur samengesteld is uit een eerste folie waarbij op delen ervan een tweede folie of een sticker aanwezig is.
18. Verpakking volgens één der voorgaande conclusies 12 tot en met 17, met het kenmerk, dat de foliestructuur samengesteld is uit twee of meer naast elkaar aanwezige
- 30 folies met verschillende eigenschappen.

UITTREKSEL:

11

Werkwijze voor het afzonderlijk verpakken van verschillende soorten voedsel in één verpakking, alsmede verpakking vervaardigd volgens de werkwijze.

5

Bij een werkwijze voor het afzonderlijk verpakken van verschillende soorten voedsel in één verpakking, wordt voedsel in een tray 3 met verscheidene, aan een zijde open bakken 5, 7, 9 gebracht, waarbij in elke bak één soort voedsel geplaatst wordt. Vervolgens wordt een foliestructuur 11 boven de open zijden van de bakken gebracht, waarbij boven elke bak een deel 21, 23, 25 van de foliestructuur wordt geplaatst. Daarna wordt de foliestructuur 11 rond de openingen van de bakken aan de tray 3 bevestigd.

10

Om de omstandigheden waarin het voedsel verpakt wordt voor elk soort voedsel optimaal te maken, wordt de foliestructuur 11 zodanig samengesteld en/of bewerkt dat de eigenschappen van de genoemde delen 21, 23, 25 van de foliestructuur verschillend zijn.

15

Deze omstandigheden kunnen verder verbeterd worden door, voordat de foliestructuur 11 wordt samengesteld en/of bewerkt, eerst de eigenschappen van het voedsel te bepalen en daarna het samenstellen en/of bewerken van de foliestructuur 11 uit te voeren al naar gelang de eigenschappen van het voedsel.

20

(Figuur 1)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 03 JUL 2001

WIPO PCT

Applicant's or agent's file reference BONG/WO-0256	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL00/00423	International filing date (day/month/year) 16/06/2000	Priority date (day/month/year) 16/06/1999
International Patent Classification (IPC) or national classification and IPC B65D77/20		
Applicant BONGERS, Cornelis M.T.M.		



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 10 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16/01/2001	Date of completion of this report 29.06.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Felgenhauer, H-P Telephone No. +49 89 2399 2618 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00423

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

6,7	as originally filed	
1-5,5a-5b	with telefax of	14/06/2001

Claims, No.:

1-12	with telefax of	14/06/2001
------	-----------------	------------

Drawings, sheets:

1/3-3/3	as originally filed
---------	---------------------

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL00/00423

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-12
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations
see separate sheet

Item V

1. The following documents are referred to
D1...US-A-5 126 518
D2...EP-A-0 520 257
D3...US-A-4 935 252.
2. Claims 1 and 5 are unclear (Article 6 PCT) since "the open sides of the compartments" referred to lack a prior definition.
- 3.1 D1 discloses a package according to the first part of claim 1. Parts of the film structure are different from each other in order to effect the flow of microwave energy.
- 3.2 The problem underlying the present application (cf. page 2, lines 15 - 19) is according to claim 1 solved for the package according to the first part of claim 1 in that the parts of the film structure being different from each other have different properties as defined by the characterising features of claim 1. Correspondingly a method for forming such a package is defined by claim 5.

The package according to claim 1 and the method according to claim 5 enable the creation of an optimal environment for each kind of food present in one compartment of the tray.

- 3.3 The provision of different parts of the film structure to influence flow of microwave energy according to D1 does not suggest provision of different parts as defined by claims 1, 5.

D2 discloses methods and compositions for oxygen scavenging and according to D3 a package comprising one compartment for cooking in a microwave oven is provided, wherein a film structure sealing the package comprises a removable window.

None of these documents could have led to a package according to claim 1 or a method according to claim 5 according to which at least a number of parts of a

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL00/00423

film structure closing associated compartments of a tray are different from each other as defined by the characterising features of claims 1 and 5.

Since the remaining documents cited in the International Search Report do not come closer the subject-matters of claims 1, 5 and with them of dependent claims 2 - 4 and 6 - 12 should satisfy the requirements of Article 33 (2) and (3) PCT.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BONG/WO-0256	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> FOR FURTHER ACTION </div> <div style="font-size: small;"> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. </div> </div>	
International application No. PCT/NL 00/ 00423	International filing date (day/month/year) <div style="text-align: center;">16/06/2000</div>	(Earliest) Priority Date (day/month/year) <div style="text-align: center;">16/06/1999</div>
Applicant BONGERS, Cornelius M.T.M.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 03 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

METHOD OF SEPARATELY PACKAGING DIFFERENT KINDS OF FOOD AND PACKAGE THEREFORE

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00423

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65D77/20 B65D81/34 B65B7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P Y	EP 0 960 825 A (BECTON DICKINSON CO) 1 December 1999 (1999-12-01) the whole document	1,7-9, 12,17,18 2-6,10, 11,13-16
Y	EP 0 520 257 A (GRACE W R & CO) 30 December 1992 (1992-12-30) cited in the application the whole document	2-4,13, 14
Y	WO 98 23443 A (BARMORE CHARLES R ;LUTHRA NARENDER P (US); CRYOVAC INC (US); MUELL) 4 June 1998 (1998-06-04) the whole document	5,10,15
Y	US 4 935 252 A (SIMON FREDERICK E ET AL) 19 June 1990 (1990-06-19)	6,16
X	the whole document	12
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

18 January 2001

Date of mailing of the international search report

26/01/2001

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Pernice, C

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00423

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 126 518 A (BECKETT D GREGORY) 30 June 1992 (1992-06-30)	11
A	the whole document	1-10, 12-18

A	US 5 408 804 A (SCHROEDER KLAUS) 25 April 1995 (1995-04-25)	1-18
	the whole document	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/NL 00/00423

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			EP 0611695 A	24-08-1994
			ES 2098641 T	01-05-1997

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00423

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B65D77/20 B65D81/34 B65B7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

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X,P	EP 0 960 825 A (BECTON DICKINSON CO) 1 December 1999 (1999-12-01)	1,7-9, 12,17,18
Y	the whole document	2-6,10, 11,13-16
Y	EP 0 520 257 A (GRACE W R & CO) 30 December 1992 (1992-12-30) cited in the application the whole document	2-4,13, 14
Y	WO 98 23443 A (BARMORE CHARLES R ;LUTHRA NARENDER P (US); CRYOVAC INC (US); MUELL) 4 June 1998 (1998-06-04) the whole document	5,10,15
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☒ Further documents are listed in the continuation of box C.

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

18 January 2001

Date of mailing of the international search report

26/01/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
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Fax: (+31-70) 340-3016

Authorized officer

Pernice, C

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 00/00423

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 126 518 A (BECKETT D GREGORY)	11
A	30 June 1992 (1992-06-30) the whole document	1-10, 12-18
A	----- US 5 408 804 A (SCHROEDER KLAUS) 25 April 1995 (1995-04-25) the whole document -----	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/NL 00/00423

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0960825 A	01-12-1999	US 6010462 A JP 2000023659 A	04-01-2000 25-01-2000
EP 0520257 A	30-12-1992	US 5211875 A AT 183533 T AU 650140 B AU 1811192 A AU 659773 B AU 5930594 A BR 9202401 A CA 2071079 A CZ 9201971 A DE 69229817 D DE 69229817 T DK 520257 T ES 2137936 T FI 922969 A HU 66841 A, B IL 102160 A JP 5194949 A MX 9203389 A NO 922537 A NZ 243077 A PL 175843 B PL 172392 B SK 197192 A RU 2093441 C US 5425896 A US 5498364 A ZA 9204349 A	18-05-1993 15-09-1999 09-06-1994 07-01-1993 25-05-1995 16-06-1994 26-01-1993 28-12-1992 13-01-1993 23-09-1999 25-05-2000 06-12-1999 01-01-2000 28-12-1992 30-01-1995 27-11-1995 03-08-1993 01-12-1992 28-12-1992 27-09-1993 26-02-1999 30-09-1997 07-09-1994 20-10-1997 20-06-1995 12-03-1996 24-02-1993
WO 9823443 A	04-06-1998	AU 5361698 A	22-06-1998
US 4935252 A	19-06-1990	NONE	
US 5126518 A	30-06-1992	US 5310980 A	10-05-1994
US 5408804 A	25-04-1995	DE 4304337 A AT 147692 T AU 670475 B AU 5481294 A CA 2114151 A DE 59305151 D DK 611695 T EP 0611695 A ES 2098641 T	25-08-1994 15-02-1997 18-07-1996 18-08-1994 14-08-1994 27-02-1997 12-05-1997 24-08-1994 01-05-1997

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 February 2001 (22.02.2001)

PCT

(10) International Publication Number
WO 01/12523 A1

(51) International Patent Classification⁷: B65D 77/20, 81/34, B65B 7/16

(21) International Application Number: PCT/NL00/00423

(22) International Filing Date: 16 June 2000 (16.06.2000)

(25) Filing Language: Dutch

(26) Publication Language: English

(30) Priority Data:
1012346 16 June 1999 (16.06.1999) NL

(71) Applicant and

(72) Inventor: BONGERS, Cornelis, Margaretha, Theodorus, Maria [NL/NL]; Dr. Klompélaan 20, NL-5707 KR Helmond (NL).

(74) Agent: VERHEES, Godefridus, Josephus, Maria; Brabant Octrooibureau, De Pinckart 54, NL-5674 CC Nuenen (NL).

(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

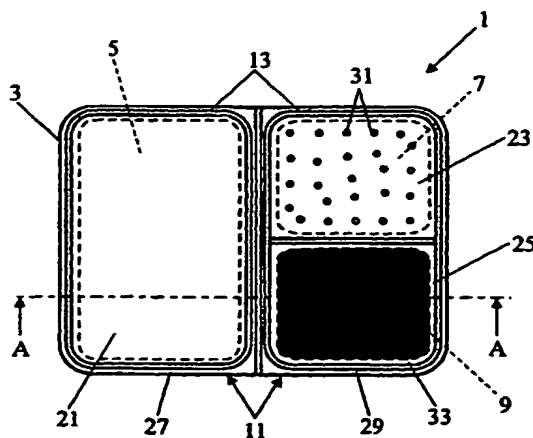
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF SEPARATELY PACKAGING DIFFERENT KINDS OF FOOD AND PACKAGE THEREFORE



(57) Abstract: In a working method for the separate packaging of different types of food in a single package, food is placed on a tray (3) with different compartments (5, 7, 9) open on one side, with one type of food being placed in each compartment. Subsequently a film structure film (11) is placed above the open sides of the compartments, with a part (21, 23, 25) of the film structure being placed above each compartment. Then the film structure (11) is fastened to the tray (3) around the openings of the compartments. To optimize the conditions in which the food is packaged for each type of food, the film structure (11) is comprised and/or processed such that the characteristics of the specified parts (21, 23, 25) of the film structure are different from each other. These circumstances can be improved even more by first determining, before comprising and/or processing the film structure (11), the characteristics of the food and then executing the composition and/or processing of the film structure (11) depending on the characteristics of the food.



WO 01/12523 A1

METHOD OF SEPARATELY PACKAGING DIFFERENT KINDS OF FOOD AND PACKAGE THEREFORE

5 BACKGROUND OF THE INVENTION**Field of the invention**

10 The invention relates to a working method for separately packaging various types of food in a single package, comprising: placing food on a tray with various compartments that are open on one side with one type of food placed in each compartment after which a film structure is placed above the open sides of the compartments, whereby above each compartment a part of the film structure is placed, followed by fastening the film structure on the tray around the open sides of the compartments. The term film structure can
15 be understood to mean either one single film or a combination of various films on and/or beside each other, as well as film with a substance or a sticker on it.

 Such packages are usually intended to allow consumers to quickly and easily prepare their own meals. Many or all of the necessary ingredients are present so that the consumer himself need not buy all the ingredients separately.

20

Prior art

 Such a working method is known from European patent no. 0 293 794 B1. In this known working method various types of food are packaged in a single package. To
25 improve the shelf life of the various types of food, in the known working method the various types of food are stored under different atmospheric conditions. Some types of food are preferably stored in an oxygen-low environment while others instead are better stored in an atmosphere that is rich in oxygen. To this end, in the known working method the option exists of introducing preservative gases into the package during packaging in the various
30 compartments of the package. In the known working method the possibility also exists of creating overpressure, underpressure, or a vacuum in one or more of the compartments during packaging.

Summary of the invention

An objective of the invention is to provide a working method of the type described in the preamble for the packaging of various types of food in a single package, in which even better individual circumstances can be created for the various types of food than with the known working method. To this end the working method according to the invention is characterized by the fact that the film structure is composed and/or processed such that the characteristics of at least some of the specified parts of the film structure are different from each other. This creates circumstances for the food in the package that are even better adapted per type of food. For example the space in a compartment of the package can be fully sealed off from the outside environment by an gas-impermeable part of the film structure, or indeed interacting with the outside environment by way of a gas-permeable part of the film structure.

The differences between the characteristics of the parts of the film structure are preferably different in a material sense, for example gas permeability, which factors have an influence upon the condition of the food in the compartments. The imprinting of parts of a transparent film with ink has little or no effect on the condition of the food so there is hardly a difference from the parts of the film which are not imprinted.

By utilizing a differentiated film structure in which the closure of each compartment can be coordinated with the type of food present in the compartment and the condition of the food, an optimal environment can be created for the food. In this way even in a package where no separate gas atmospheres are present in the compartments good circumstances can nonetheless be obtained for the food.

An embodiment of the working method according to the invention is characterized by the fact that in the composition and/or processing of the film structure in at least a number of the specified parts an active element can be introduced into the film structure. The term active element should be understood to mean an element that reacts with substances in the food or substances that are emitted by the food.

Preferably the active element in the form of an active substance is placed in and/or on the parts of the film structure. For example the substance might be a material that reacts with the oxygen in the compartment and thus removes the oxygen from the compartment and the food. This is desirable for those types of food that can be stored best

in a low-oxygen atmosphere, for example for the protection of flavor and aroma against oxidation. Such substances are generally known, for example films that contain iron powder. The iron powder rusts and oxygen is withdrawn from the food and the atmosphere in the compartment. Instead of iron powder ascorbic acid or sulphite can also be used as an active substance. These substances, too, oxidize and oxygen is withdrawn from the food and the atmosphere in the compartment. In addition, enzymatic-acting substances can be applied to the film, such as glucose oxidase or ethanol oxidase in which enzymes are catalysts for an oxygen-consuming reaction.

The substance can also be a material, for example, that absorbs oxygen, for example a film of nylon polymer in which cobalt is present for a cobalt-catalyzed oxidation of the nylon polymer. Instead of, or in addition to, oxygen-absorbing substances, the film or sticker can also contain CO₂ absorbing or emitting substances, or ethylene absorbing substances, ethanol emitting substances, moisture-absorbing substances, etc. All of these substances are generally known.

The active element can also be formed by applying a film structure that is activated upon radiation. By only radiating a number of the parts of the film structure, a film structure with varying characteristics is created. The material of the film structure should in this case be such that its characteristics can be changed by radiation or because certain substances in the material of the film structure can be activated by radiation. For example the material of the film structure can discolor in response to radiation and form a light barrier. In addition, as a result of radiation the material can be activated such that for example it obtains the characteristic that it reacts to oxygen and thus removes the oxygen from the compartment. Such a film is known from European patent application EP-A 0 520 257. This known film contains a combination of an oxidizable organic compound and a metallic transference catalyst. Here oxidation of the organic compound can be initiated by radiation. The manner of radiating is known from the international patent application WO 99/21699. Through this reference both documents are included in the present patent application. In this way food can be packaged both in a low-oxygen environment and a high-oxygen environment in a single package.

Processing the film structure can comprise for example placing perforations in at least a number of the parts of the film structure, for example to allow the food to breathe. The size of the perforations or the number of perforations can be adjusted

depending on the degree of respiration of the food. A film with microperforations can also be used.

A further embodiment of the working method according to the invention is characterized in that at the composition and/or processing of the film structure in at least some of the parts of the film structure, a passive element is introduced that manipulates radiation. Under a passive element that manipulates radiation one should think of an element that can resist radiation - for example microwaves in a microwave oven - reflect them, redistribute them, or absorb them and convert them into heat. For example an aluminum film can modify the field in a microwave such that the capacity in the microwave unit is redistributed and even heating is obtained. Materials that can absorb microwave energy and convert it into heat are, for example, aluminum, stainless steel and inconel.

The composition of the film structure can for example take place by using first one film and then on parts of that film placing a second film or sticker. The second film or sticker can for example contain the above-mentioned active substance or consist of one of the above-mentioned materials that influence radiation. Or the first film can be perforated and the second film or sticker can be gas impermeable and seal off parts of the first film.

The film structure can also be composed for example by fastening two films to each other, after which one of the films is locally removed. The one film can for example be perforated and the other film can be a gas-impermeable film that is placed in separate parts on the perforated film. Parts of the gas-impermeable film can for example be peeled off the perforated film.

Yet another method of composing the film structure can for example be to place two or more films with different characteristics beside each other on the tray. For example the various films can contain an active substance, be perforated, be made of a radiation-influencing material, or be gas impermeable. Possibly the films can first be connected with each other before being placed on the tray.

The composition and/or processing of the film structure preferably takes place before food is placed on the tray. This decreases the chance that waste materials that may occur during the processing end up in the food.

Another favorable embodiment of the working method according to the invention is characterized in that, before the film structure is composed and/or processed, first the characteristics of the food are determined, after which the composition and/or

processing of the film structure takes place according to the characteristics of the food. Thus the conditions under which the food is stored can be better coordinated with the actual condition of the food. For example, if the respiration of the food is high, it may be desirable that the space in the compartment be more connected with the environment, such that a film structure with high permeability is desirable.

The invention also relates to a package manufactured according to the working method according to the invention comprising a tray with various compartments in which various types of food are present, with one type of food in each compartment, which compartments are closed off by a film structure that is connected to the tray around the openings of the compartments, where above each compartment part of the film structure is present.

As far as the package is concerned the invention is characterized in that the characteristics of at least some of the parts of the film structure are different. For example in at least some of the parts of the film structure there can be perforations, in and/or on at least a number of parts of the film structure an active element or active substance can be present, or at least in a number of parts of the film structure a passive element can be present that manipulates radiation.

In addition, the various characteristics can be acquired because the film structure is comprised of various films, for example a first film and a second film or a sticker that is present on parts of the first film, or two or more films beside each other with different characteristics.

Brief description of the drawings

The invention will be elucidated more fully below on the basis of drawings in which embodiments of the working method and the package according to the invention are shown. In these drawings:

Figure 1 shows an embodiment of the package according to the invention in a top view;

Figure 2 shows the illustration in Figure 1 as a cross-section;

Figure 3 shows a diagram of a first embodiment of the working method according to the invention;

Figure 4 shows a diagram of a second embodiment of the working method according to the invention;

Figure 5 shows a first embodiment of the composition of the film structure; and

5 Figure 6 shows a second embodiment of the composition of the film structure.

Detailed description of the drawings

10 In Figures 1 and 2 an embodiment of the package according to the invention is shown in a top view respectively cross-section along line A-A. The package 1 is comprised of a tray 3 that has various compartments 5, 7, and 9 that are open on top. The compartments are closed off by a film structure 11 that is fastened via sealing seams 13 to flanges 15 of the tray 3.

15 In the compartments 5, 7, 9 there are various types of food 17, 19. For each type of food an optimal closure of the compartment is present, because the film structure 11 is divided into various parts 21, 23, 25, that have different characteristics and each close off a compartment. For example part 21 and parts 23 and 25 form individual films 27 and 29 that are fastened side by side on the tray. Films 27 and 29 are for example transparent gas-impermeable films. To obtain optimal conditions in the compartments, for example, part 23
20 of the film 29 is provided with perforations 31 and another part 25 of the film 29 has a non-transparent sticker 33 that seals off the space in the compartment against light.

To further improve the conditions under which the various types of food are packaged, various preservative gases 35, 37 can be introduced into the compartments.

25 Figure 3 is a diagram showing a first embodiment of the working method according to the invention for packaging different types of food in a single package. Here in a separate production process 41 the film structure 43 is manufactured. In this production process 41 various films 45, 47 can be fastened on or on top of each other and/or the film structure can be processed. The fastening and/or the processing takes place in a machine 49.

30 The film structure 43 is then brought into a further production process 51. In this production process 51 trays 53 are filled with different types of food 55, 57. Then the film structure 43 is brought above the open side of the tray 53. Then the film structure 43

is sealed on the tray 53 by melting the film structure 43 to the tray 53 with a heated sealing stamp 59.

Figure 4 is a diagram showing a second embodiment of the working method according to the invention. Here the process of composing and/or processing the film structure is integrated into the process of filling the trays and the fastening of the film structure to the trays. After filling the compartments of the tray 53 with different types of food 55, 57 the condition of the food is measured. Depending on the conditions the machine 49 is set. In this manner for example the number of perforations per surface unit can be set. Thus the package can be even better coordinated with regard to the type of food being packaged.

The film structure can be comprised in various ways. Figure 5 shows a first embodiment of the composition of the film structure and placement on a tray. Here the two different films 61 and 63 form, side by side, the film structure 65, and each film seals off one or more compartments of the tray 67.

Figure 6 shows a second embodiment of the composition of the film structure. Here two different films 71 and 73 are fastened to each other and form a film structure. The film structure thus formed 75 possesses different parts 77 and 79 to seal off different compartments of the trays 81.

Although the invention is explained above on the basis of drawings, it should be stressed that the invention is in no way limited to the embodiments shown in the drawings. The invention also extends to all embodiments deviating from the embodiments shown in the drawings within the context defined by the claims.

CLAIMS:

1. Working method for separately packaging various types of food in a single package, comprising:

- placing food on a tray with different compartments open on one side, with one type of food being placed in each compartment,
- then placing a film structure above the open sides of the compartments, whereby above each compartment a part of the film structure is placed,
- followed by fastening the film structure to the tray around the openings of the compartments,

characterized in that the film structure is comprised and/or processed such that the characteristics of at least some of the specified parts of the film structure are different from each other.

2. Working method according to claim 1, characterized in that at the composition and/or processing of the film structure in at least some of the parts mentioned an active element is introduced into the film structure.

3. Working method according to claim 2, characterized in that the active element in the form of an active substance is placed in and/or on the parts of the film structure.

4. Working method according to claim 2 or 3, characterized in that at least some of the parts of the film structure are irradiated.

5. Working method according to one of the preceding claims, characterized in that there are perforations in at least some of the parts of the film structure.

6. Working method according to one of the preceding claims, characterized in that in at least some of the parts of the film structure a passive element is placed that manipulates radiation.

7. Working method according to one of the preceding claims, characterized in that the film structure is comprised of a first film with a second film or sticker being placed on parts of the first film.

8. Working method according to one of the preceding claims, characterized in that the film structure is comprised by fastening two films on each other, after which one of the films is removed locally.

9. Working method according to one of the preceding claims, characterized in

that the film structure is comprised of two or more adjacent films with different characteristics.

10. Working method according to one of the preceding claims, characterized in that the composition and/or processing of the film structure takes place before food is placed on the tray.

11. Working method according to one of the preceding claims, characterized in that before the film structure is comprised and/or processed first the characteristics of the food are determined, after which the composition and/or processing of the film structure takes place in accordance with the characteristics of the food.

12. Package manufactured according to a working method according to one of the preceding claims, comprising a tray with various compartments in which different types of food are present, with one type of food being present in each compartment, which compartments are closed off by a film structure that is fastened to the tray around the openings of the compartments, with part of the film structure being present above each compartment of the tray, characterized in that the characteristics of at least a number of parts of the film structure are different from each other.

13. Package according to claim 12, characterized in that in at least some of the specified parts an active element is present in the film structure.

14. Package according to claim 13, characterized in that the active element in the form of an active substance is present in and/or on the parts of the film structure.

15. Package according to claim 12, 13 or 14, characterized in that there are perforations in at least some of the parts of the film structure.

16. Package according to claim 12, 13, 14 or 15, characterized in that in at least some of the parts of the film structure a passive element is present and manipulates radiation.

17. Package according to one of the preceding claims 12 through 16, characterized in that the film structure is comprised of a first film in which on parts of this film a second film or a sticker is present.

18. Package according to one of the preceding claims 12 through 17, characterized in that the film structure is comprised of two or more adjacent films with different characteristics.

1 / 3

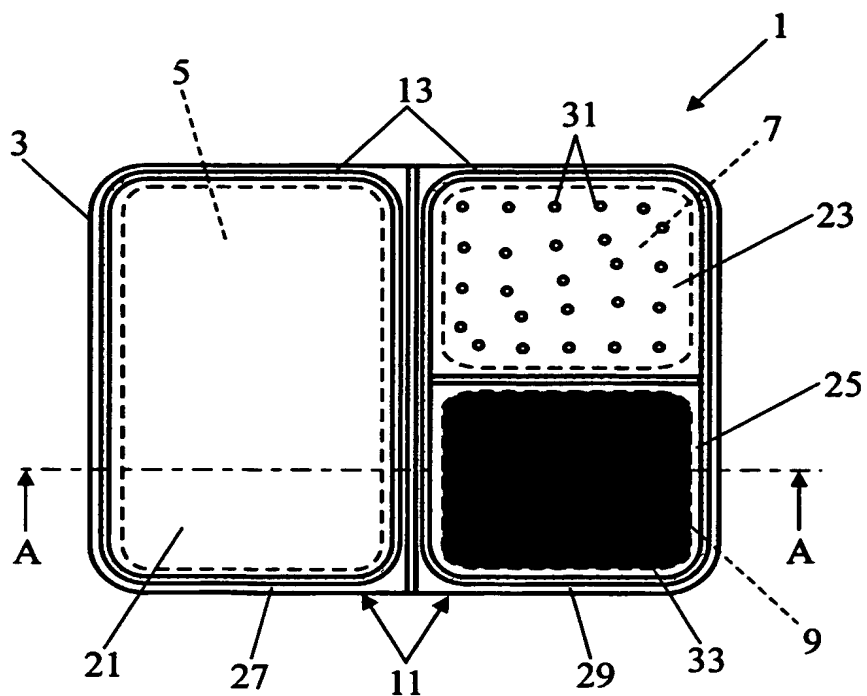


FIG. 1

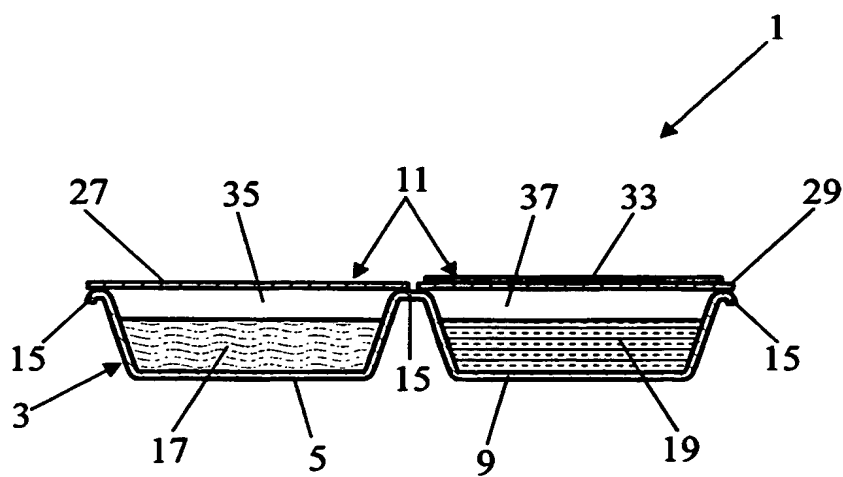


FIG. 2

2 / 3

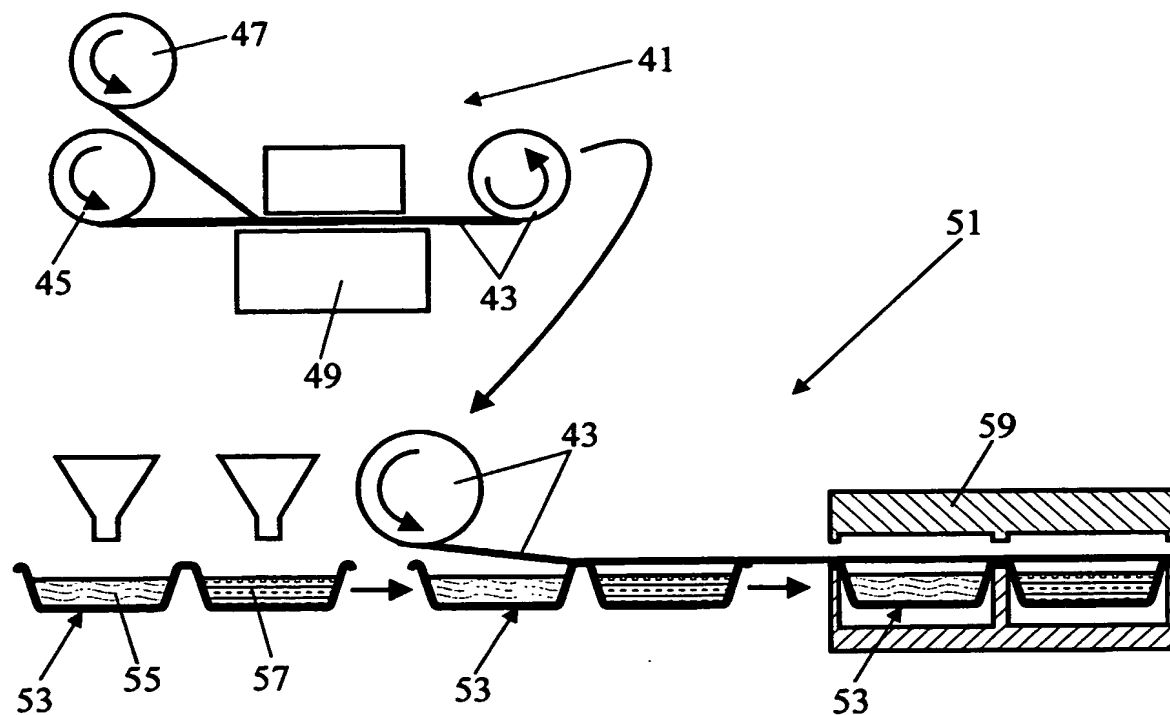


FIG. 3

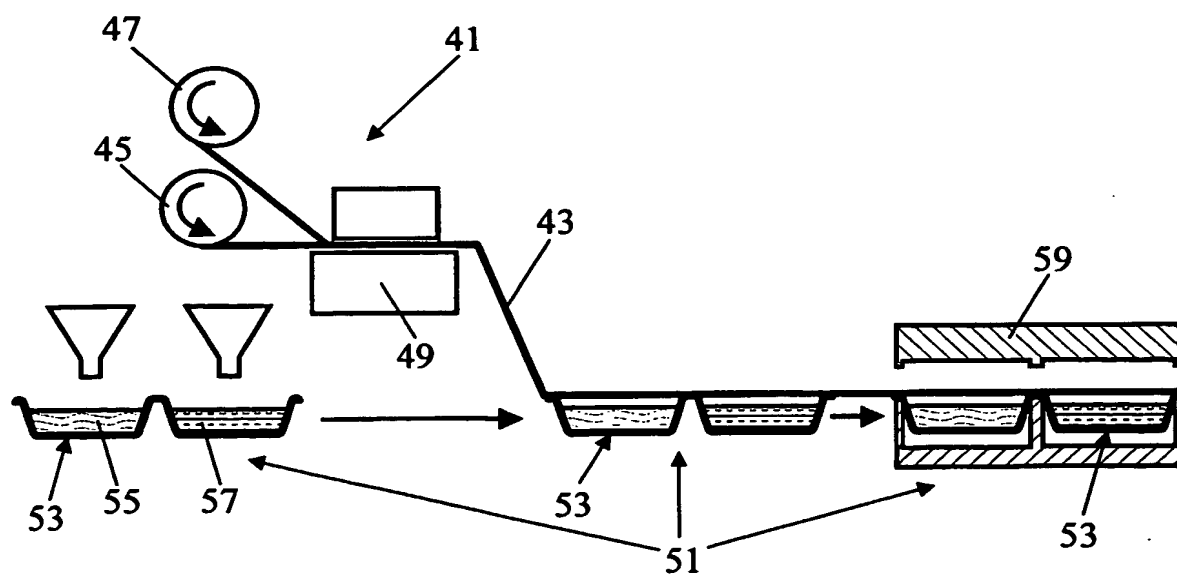


FIG. 4

3 / 3

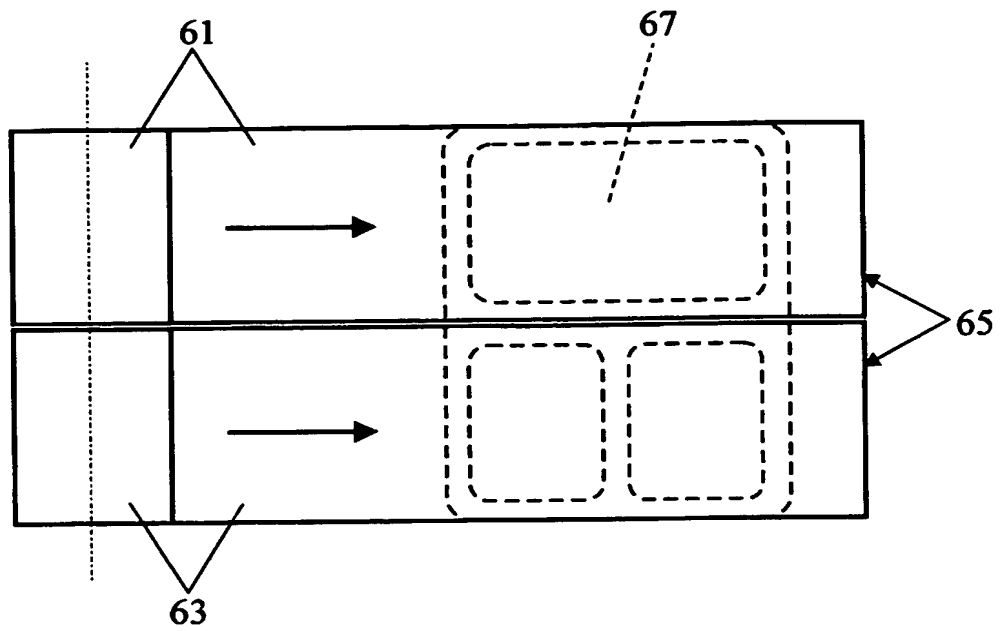


FIG. 5

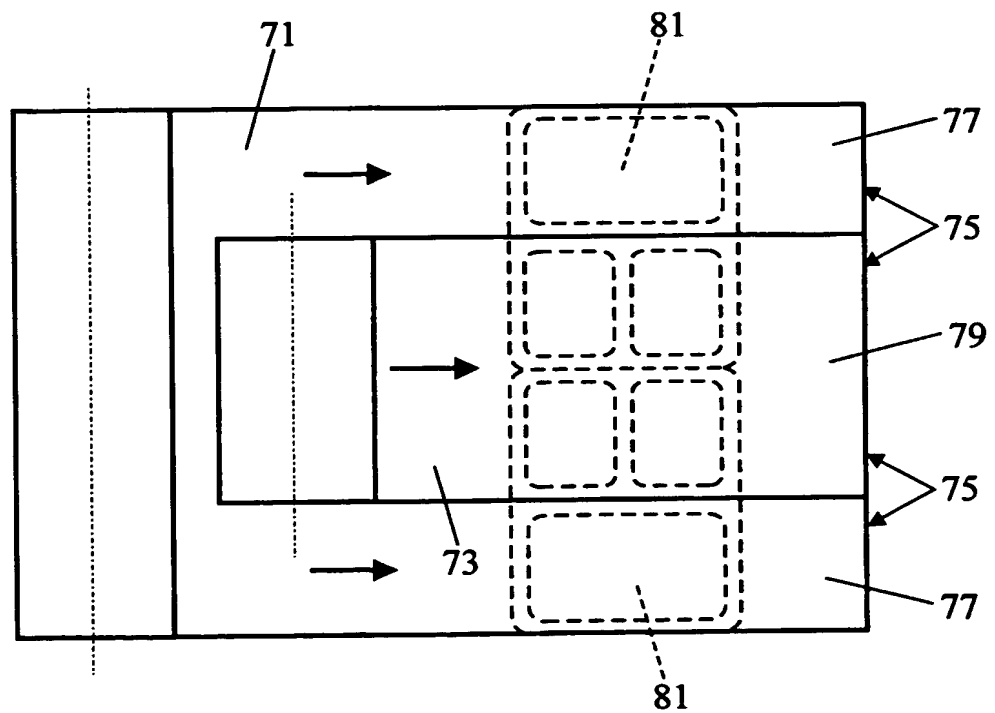


FIG. 6

INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00423

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65D77/20 B65D81/34 B65B7/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65D B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P Y	EP 0 960 825 A (BECTON DICKINSON CO) 1 December 1999 (1999-12-01) the whole document	1,7-9, 12,17,18 2-6,10, 11,13-16
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X	the whole document	12
-/-		

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/NL 00/00423

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	30 June 1992 (1992-06-30) the whole document	1-10, 12-18
A	US 5 408 804 A (SCHROEDER KLAUS) 25 April 1995 (1995-04-25) the whole document	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/NL 00/00423

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Working method for separately packaging various types of food in a single package as well as package manufactured according to this working method.

5 **BACKGROUND OF THE INVENTION**

Field of the invention

The invention relates to a ~~working method for separately packaging~~
10 ~~various types of food in a single package, comprising: placing food on a tray with~~
~~various compartments that are open on one side with one type of food placed in each~~
~~compartment after which a film structure is placed above the open sides of the~~
~~compartments, whereby above each compartment a part of the film structure is placed,~~
15 ~~followed by fastening the film structure on the tray around the open sides of the~~
~~compartments package comprising a tray with various compartments in which different~~
~~types of food are present, with one type of food being present in each compartment,~~
~~which compartments are closed off by a film structure that is fastened to the tray around~~
~~the openings of the compartments, with part of the film structure being present above~~
20 ~~each compartment of the tray, and at least a number of parts of the film structure are~~
~~different from each other.~~ The term film structure can be understood to mean either one
single film or a combination of various films on and/or beside each other, as well as
film with a substance or a sticker on it.

Such packages are usually intended to allow consumers to quickly and
easily prepare their own meals. Many or all of the necessary ingredients are present so
25 that the consumer himself need not buy all the ingredients separately.

Prior art

Such a ~~working method is known from European patent no. 0 293 794~~
30 ~~B1. In this known working method various types of food are packaged in a single~~
~~package. To improve the shelf life of the various types of food, in the known working~~
~~method the various types of food are stored under different atmospheric conditions.~~
~~Some types of food are preferably stored in an oxygen low environment while others~~
~~instead are better stored in an atmosphere that is rich in oxygen. To this end, in the~~

~~known working method the option exists of introducing preservative gases into the package during packaging in the various compartments of the package. In the known working method the possibility also exists of creating overpressure, underpressure, or a vacuum in one or more of the compartments during packaging. package is known from~~
5 US 5.126.518. In this known package some parts are provided with a layer of microwave-reflective material and other parts not to effect a decreased flow of microwave energy to the foodstuffs in certain zones of the tray and an enhanced flow of microwave energy to the foodstuffs in the remainder of the tray.

10 **Summary of the invention**

An objective of the invention is to provide a package working method of the type described in the preamble ~~for the packaging of various types of food in a single package, in which even better individual circumstances can be created for the various types of food than with the known working method. for preservation of the food in the different compartments.~~ To this end the package ~~the working method~~ according to the invention is characterized by the fact that ~~the film structure is composed and/or processed such that the characteristics of at least some of the specified parts of the film structure are different from each other~~ these parts are gas-permeable and/or that a material which reacts with gasses in the respective compartments is provided in and/or on the film structure. This creates circumstances for the food in the package that are ~~even better~~ adapted per type of food. For example the space in a compartment of the package can be fully sealed off from the outside environment by an gas-impermeable part of the film structure, or indeed interacting with the outside environment by way of a gas-permeable part of the film structure. For example in at least some of the parts of the film structure there can be perforations, ~~in and/or on at least a number of parts of the film structure an active element or active substance can be present, or at least in a number of parts of the film structure a passive element can be present that manipulates radiation.~~

30 In addition, the various characteristics can be acquired because the film structure is comprised of various films, for example a first film and a second film or a sticker that is present on parts of the first film, or two or more films beside each other with different characteristics.

It is noted that from US-A-4.935.252 a food package is known having a

film structure comprising two films of which one is applied on the other and can be removed. This package contains only one compartment. Furthermore the differentiation of the film structure only relates to characteristics for preparation of the food and not for preservation.

5 ~~The differences between the characteristics of the parts of the film structure are preferably different in a material sense, for example gas permeability, which factors have an influence upon the condition of the food in the compartments. The imprinting of parts of a transparent film with ink has little or no effect on the condition of the food so there is hardly a difference from the parts of the film which are~~
10 ~~not imprinted.~~

It is noted that from European patent no. 0 293 794 B1 a working method is known in which various types of food are packaged in a single package. To improve the shelf life of the various types of food, in the known working method the various types of food are stored under different atmospheric conditions. Some types of food are
15 preferably stored in an oxygen-low environment while others instead are better stored in an atmosphere that is rich in oxygen.

 By utilizing a differentiated film structure according to the present invention in which the closure of each compartment can be coordinated with the type of food present in the compartment and the condition of the food, an optimal environment
20 can be created for the food. In this way even in a package where no separate gas atmospheres are present in the compartments good circumstances can nonetheless be obtained for the food.

~~An embodiment of the working method according to the invention is characterized by the fact that in the composition and/or processing of the film structure in at least a number of the specified parts an active element can be introduced into the film structure. The term active element should be understood to mean an element that reacts with substances in the food or substances that are emitted by the food.~~

~~Preferably the active element in the form of~~ For example the material can
 be an active substance which is placed in and/or on the parts of the film structure. ~~For~~
30 example The substance might be a material that reacts with the oxygen in the compartment and thus removes the oxygen from the compartment and the food. This is desirable for those types of food that can be stored best in a low-oxygen atmosphere, for example for the protection of flavor and aroma against oxidation. Such substances are generally known, for example films that contain iron powder. The iron powder rusts and

oxygen is withdrawn from the food and the atmosphere in the compartment. Instead of iron powder ascorbic acid or sulphite can also be used as an active substance. These substances, too, oxidize and oxygen is withdrawn from the food and the atmosphere in the compartment. In addition, enzymatic-acting substances can be applied to the film, such as glucose oxidase or ethanol oxidase in which enzymes are catalysts for an oxygen-consuming reaction.

The substance can also be a material, for example, that absorbs oxygen, for example a film of nylon polymer in which cobalt is present for a cobalt-catalyzed oxidation of the nylon polymer. Instead of, or in addition to, oxygen-absorbing substances, the film or sticker can also contain CO₂ absorbing or emitting substances, or ethylene absorbing substances, ethanol emitting substances, moisture-absorbing substances, etc. All of these substances are generally known.

The material active element can also be formed by applying a film structure that is activated upon radiation. By only radiating a number of the parts of the film structure, a film structure with varying characteristics is created. The material of the film structure should in this case be such that its characteristics can be changed by radiation or because certain substances in the material of the film structure can be activated by radiation. For example ~~the material of the film structure can discolor in response to radiation and form a light barrier. In addition,~~ as a result of radiation the material can be activated such that for example it obtains the characteristic that it reacts to oxygen and thus removes the oxygen from the compartment. Such a film is known from European patent application EP-A 0 520 257. This known film contains a combination of an oxidizable organic compound and a metallic transference catalyst. Here oxidation of the organic compound can be initiated by radiation. This known package consists of only one compartment. Furthermore in this known package the entire film is irradiated, there is no differentiation of the film. The manner of radiating is known from the international patent application WO 99/21699. ~~Through this reference both documents are included in the present patent application.~~ In this way food can be packaged both in a low-oxygen environment and a high-oxygen environment in a single package.

The invention also relates to a ~~package manufactured according to the working method according to the invention comprising a tray with various compartments in which various types of food are present, with one type of food in each compartment, which compartments are closed off by a film structure that is connected to~~

the tray around the openings of the compartments, where above each compartment part of the film structure is present for separately packaging various types of food in a single package, comprising: placing food on a tray with different compartments open on one side, with one type of food being placed in each compartment, then placing a film structure above the open sides of the compartments, whereby above each compartment a part of the film structure is placed, at least the characteristics of some of the specified parts of the film structure are different from each other, followed by sealing fastening the film structure to the tray around the openings of the compartments.

As far as the working method package is concerned the invention is characterized in that ~~the characteristics of at least some of the parts of the film structure are different~~ the film structure is comprised or processed such that ~~the characteristics of at least some of the specified parts of the film structure are different from each other~~ some of the parts of the film structure are gas permeable and/or are provided with a material in and/or on the film structure which material reacts with gasses in the respective compartments.

Processing the film structure can comprise for example placing perforations in at least a number of the parts of the film structure, for example to allow the food to breathe. The size of the perforations or the number of perforations can be adjusted depending on the degree of respiration of the food. A film with microperforations can also be used.

~~A further embodiment of the working method according to the invention is characterized in that at the composition and/or processing of the film structure in at least some of the parts of the film structure, a passive element is introduced that manipulates radiation. Under a passive element that manipulates radiation one should think of an element that can resist radiation—for example microwaves in a microwave oven—reflect them, redistribute them, or absorb them and convert them into heat. For example an aluminum film can modify the field in a microwave such that the capacity in the microwave unit is redistributed and even heating is obtained. Materials that can absorb microwave energy and convert it into heat are, for example, aluminum, stainless steel and inconel.~~

The composition of the film structure can for example take place by using first one film and then on parts of that film placing a second film or sticker. The second film or sticker can for example contain the above-mentioned active substance or consist of one of the above-mentioned materials that influence radiation. Or the first

film can be perforated and the second film or sticker can be gas impermeable and seal off parts of the first film.

The film structure can also be composed for example by fastening two films to each other, after which one of the films is locally removed. The one film can for example be perforated and the other film can be a gas-impermeable film that is placed in separate parts on the perforated film. Parts of the gas-impermeable film can for example be peeled off the perforated film.

Yet another method of composing the film structure can for example be to place two or more films with different characteristics beside each other on the tray. For example the various films can contain an active substance, be perforated, be made of a radiation-influencing material, or be gas impermeable. Possibly the films can first be connected with each other before being placed on the tray.

The composition and/or processing of the film structure preferably takes place before food is placed on the tray. This decreases the chance that waste materials that may occur during the processing end up in the food.

Another favorable embodiment of the working method according to the invention is characterized in that, before the film structure is composed and/or processed, first the characteristics of the food are determined, after which the composition and/or processing of the film structure takes place according to the characteristics of the food. Thus the conditions under which the food is stored can be better coordinated with the actual condition of the food. For example, if the respiration of the food is high, it may be desirable that the space in the compartment be more connected with the environment, such that a film structure with high permeability is desirable.

Brief description of the drawings

The invention will be elucidated more fully below on the basis of drawings in which embodiments of the working method and the package according to the invention are shown. In these drawings:

Figure 1 shows an embodiment of the package according to the invention in a top view;

Figure 2 shows the illustration in Figure 1 as a cross-section;

Figure 3 shows a diagram of a first embodiment of the working method

according to the invention;

[Further page 6, line 1]

CLAIMS:

1. ~~Package (1) manufactured according to a working method according to one of the preceding claims,~~ comprising a tray (3) with various compartments (5, 7, 9) in which different types of food (17, 19) are present, with one type of food being present in each compartment, which compartments (5, 7, 9) are closed off by a film structure (11) that is fastened sealed to the tray (3) around the openings of the compartments, above each compartment (5, 7, 9) of the tray a part (21, 23, 25) of the film structure (11) being present, characterized in that the characteristics of and at least a number of these parts (21, 23, 25) of the film structure (11) are different from each other, characterized in that these parts (21, 23, 25) are gas-permeable and/or that a material which reacts with gasses in the respective compartments is provided in and/or on some of these parts of the film structure (11).
- ~~13. Package according to claim 12, characterized in that in at least some of the specified parts an active element is present in the film structure.~~
- ~~14. Package according to claim 13, characterized in that the active element in the form of an active substance is present in and/or on the parts of the film structure.~~
2. Package according to claim 1 ~~12, 13 or 14~~, characterized in that there are perforations (31) in at least some of the parts (23) of the film structure (11).
- ~~16. Package according to claim 12, 13, 14 or 15, characterized in that in at least some of the parts of the film structure a passive element is present and manipulates radiation.~~
3. Package according to ~~one of the preceding claims 12 through 16~~ claim 1 or 2, characterized in that the film structure (11; 43; 75) is comprised of a first film (29; 45; 71) in which on some parts (25; 77) of this film a second film (47; 73) or a sticker (23) is present.
4. Package according to ~~one of the preceding claims 12 through 17~~ claims 1, 2 or 3, characterized in that the film structure (65) is comprised of two or more adjacent films (61, 63) with different characteristics.
5. Working method for separately packaging various types of food in a single package, comprising:
- placing food (17, 19) on a tray (3) with different compartments (5, 7, 9) open on one side, with one type of food (17, 19) being placed in each compartment (5, 7, 9),
 - then placing a film structure (11) above the open sides of the compartments (5,

7, 9), whereby above each compartment a part (21, 23, 25) of the film structure (11) is placed, at least the characteristics of some of the specified parts (21, 23, 25) of the film structure (11) are different from each other.

- followed by sealing fastening the film structure (11) to the tray (3) around the openings of the compartments (5, 7, 9),

characterized in that the film structure (11) is ~~comprised or~~ processed such that the characteristics of ~~at least some of the specified parts of the film structure are different from each other~~ some of the parts (21, 23, 25) of the film structure (11) are gas permeable and/or are provided with a material in and/or on the film structure (11) which material reacts with gasses in the respective compartments (5, 7, 9).

~~2. Working method according to claim 1, characterized in that at the composition and/or processing of the film structure in at least some of the parts mentioned an active element is introduced into the film structure.~~

~~3. Working method according to claim 2, characterized in that the active element in the form of an active substance is placed in and/or on the parts of the film structure.~~

6. Working method according to claim 5, characterized in that at least some of the parts (21, 23, 25) of the film structure (11) are irradiated.

7. Working method according to one of the preceding claim 5 or 6, characterized in that perforations (31) are made in at least some of the parts (23) of the film structure (11).

~~6. Working method according to one of the preceding claims, characterized in that in at least some of the parts of the film structure a passive element is placed that manipulates radiation.~~

8. Working method according to one of the preceding claims 5 to 7, characterized in that the film structure (11; 43; 75) is comprised produced by taking of a first film (29; 45; 71) on parts (25; 77) of which with a second film (47; 73) or sticker (23) being is placed ~~on parts of the first film.~~

9. Working method according to one of the preceding claims 5 to 8, characterized in that the film structure is comprised produced by fastening two films on each other, after which one of the films is removed locally.

10. Working method according to one of the preceding claims 5 to 9, characterized in that the film structure (65) is comprised produced of two or more adjacent films (61, 63) with different characteristics which are adjacent to each other.

11. Working method according to one of the preceding claims 5 to 10, characterized in that the composition and/or processing of the film structure takes place before food is placed on the tray.

12. Working method according to one of the preceding claims 5 to 11,
5 characterized in that before the film structure is ~~comprised and/or~~ processed first the characteristics of the food are determined, after which the composition and/or processing of the film structure takes place in accordance with the characteristics of the food.

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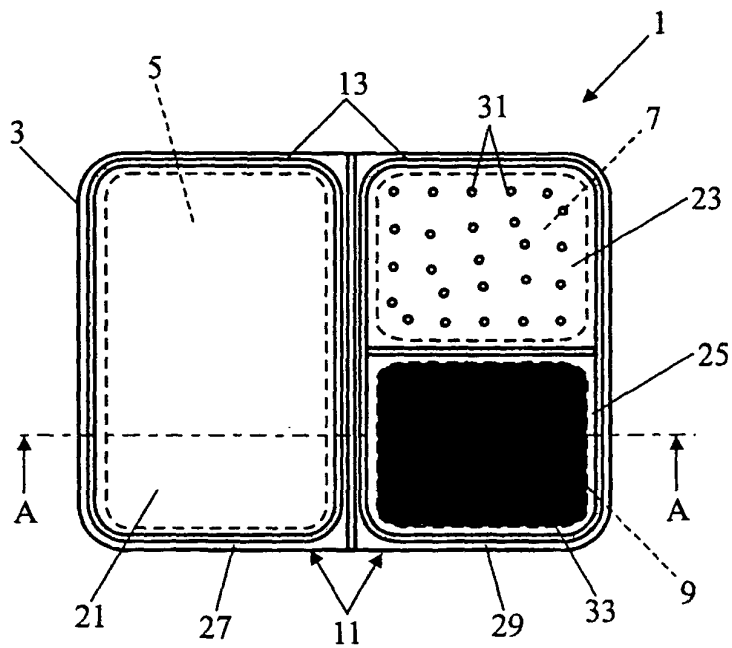


FIG. 1

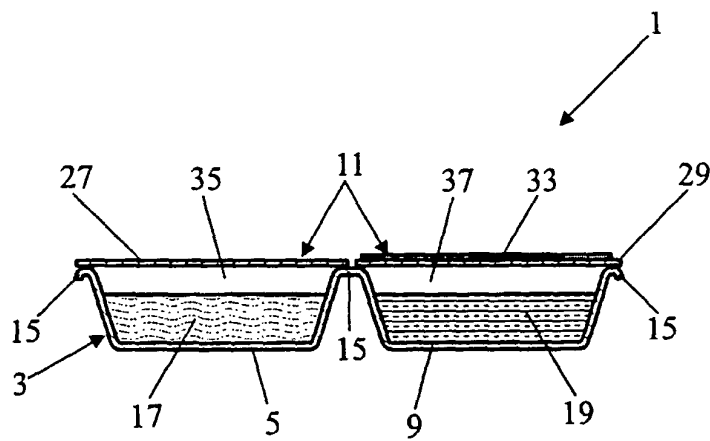


FIG. 2

[illegible]

FIG. 4

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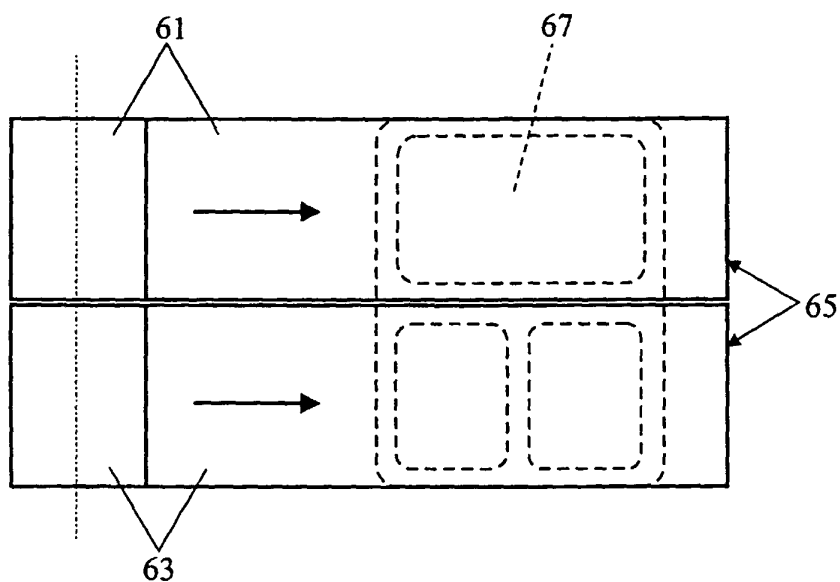


FIG. 5

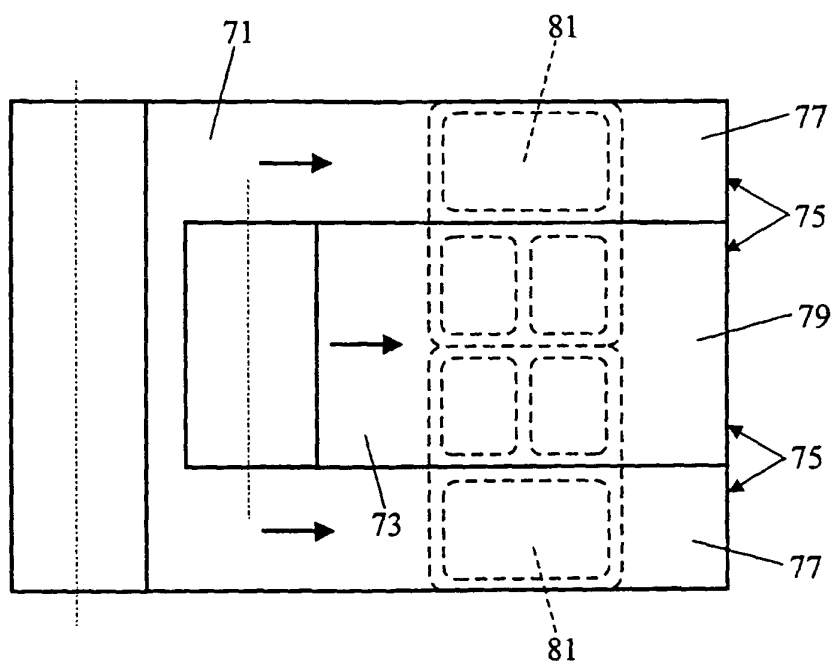


FIG. 6